Brazilian Subnational Pandemic and Everyday Health Politics

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Abstract

Despite historical experience and health state capacity, Brazil struggled to address the COVID-19 pandemic. Whereas past administrations have proactively mobilized resources to combat epidemics, Bolsonaro's administration took a more passive role. The federal government's relative absence forced state and municipal governments to plan and manage the pandemic response. At the state level, governors, across different political parties and varying loyalties towards Bolsonaro, banded together to procure vaccinations for their citizens. At the municipal level, mayors enacted a series of social and public health support measures. However, these responses were not universal, and there has been significant variation between and within municipalities.

What explains municipal variation in the enactment of pandemic-related public policies? Current studies focus on three explanations – political alignment, health state capacity, and diffusion – to explain policy implementation variation across and within countries at various levels of governance. While these studies are important to our knowledge of pandemic responses at the federal and state levels, there have been few studies examining these explanations at the local level. Using quantitative and qualitative evidence, this article argues that, while conventional wisdom holds in explaining pandemic responses, the mayor's health training and population size mediate conventional explanations such as state capacity and political polarization.

This article makes two key contributions. First, it tests the conventional wisdom of pandemic responses at the municipal level, which is important to our understanding of local city dynamics and highlights key mechanisms that mediate the implementation of COVID-19 policy. Second, it provides alternative hypotheses, such as the mayor's health training and population size, which are idiosyncratic to the level of analysis. This project is part of a larger project exploring the political motivations of COVID-19 implementation in Brazilian municipalities.

Key Words: COVID-19, Brazil, polarization, state health capacity, city governance, diffusion

1. Introduction

Despite historical experience and health state capacity, Brazil has struggled to address the COVID-19 pandemic. Although previous administrations have actively mobilized resources to combat pandemics, Bolsonaro's administration took a more passive role, claiming that the negative effects of quarantine measures outweighed their benefits. The initial absence of a federal response prompted states and municipalities to act, which the federal government challenged in the Brazilian Supreme Court. The court sided with states and municipalities and granted them unprecedented autonomy in planning, managing, and addressing the pandemic. In some cases, state governors of different political parties and Bolsonaro allegiances came together to obtain vaccinations for their citizens and implemented stay-at-home orders (Giraudy et al., 2020).

At the municipal level, mayors varied in the creation and implementation of public health measures and social welfare programs. For example, the São Paulo municipality of Araraquara — used its authority to implement one of the strictest lockdowns in the country, ordered research universities to analyze COVID-19 tests, and had a municipal COVID-19 committee — composed of medical health professionals, scientists, and public health officials.[1] On the other hand, the Minas Gerais municipality of Capitólio, whose economy depends on tourism and commerce, implemented few public health measures. In both cases, the municipalities were led by mayors of the Workers Party (PT). These examples highlight a puzzling feature of responses to the pandemic: the variation in the implementation of public health measures despite similarities in political parties.

Current explanations for pandemic responses in the United States and Europe do not easily translate to the Global South. First, traditional theories, such as polarization and partisanship, which assume a strong political party structure and coherent and stable ideological beliefs, fail to account for the dynamic nature of Brazilian politics. In a country with more than 40 registered parties, some without clear ideologies and individuals willing to switch parties, partisanship cannot fully explain state and municipal-level responses. For example, the former governor of São Paulo, João Doria, supported President Bolsonaro when he was elected but then led a coalition of governors to procure vaccines

[1] Based on an interview with the Municipal Health Secretary of Araraquara. Interview conducted on March 10, 2022.

for Brazilians as the pandemic worsened in the state.[2] Second, theoretically, Brazil has the medical infrastructure to effectively handle a pandemic, including epidemiological experts, a world-renowned vaccination program, and historical experience dealing with other epidemics (including HIV/AIDS, dengue fever, cholera, etc.). Yet, many municipalities struggled to raise the necessary funds to procure intensive care unit (ICU) beds, personal protection equipment (PPE), testing kits, and staff. To compensate, many municipalities repurposed or devoted a larger share of their budgets towards pandemic-related expenses. For instance, in the case of Araraquara, the municipality repurposed its research universities to produce and analyze COVID-19 samples when the state testing agency took too long to deliver results.

Finally, many scholars who solely focus on the federal government's failure to respond appropriately omit the crucial role of decentralization in the enactment of COVID-19-related policies. The leadership vacuum created by the federal government forced states and municipalities to rely on their resources and authority to protect their citizens (Bennouna et al., 2021; Dunn & Laterzo, 2021; Knaul et al., 2021). Although this absence played an important role in explaining Brazil's high infection and death rates, it does not explain how those same metrics varied across similar municipalities. Furthermore, it does not account for a long history of intergovernmental and interregional collaboration between municipalities, which played a crucial role in the implementation of COVID-19 policies.

What explains the subnational variation in the enactment of pandemic-related policies across Brazilian municipalities? This paper addresses this variation using a novel COVID-19 dataset and a set of interviews with local officials, including mayors (prefeitos), council members (vereadores), health officials, commercial associations, police officers, and religious leaders. I argue that, while the conventional wisdoms of political polarization, state capacity, and diffusion hold in explaining pandemic responses, they are mediated and complemented by other explanations at the local level, such as the health training of the mayor and population size. Mayors who have medical experience or have worked in health departments may set aside partisan differences to act in the best interests of their constituencies. Population size may also dictate the likelihood of achieving higher office,

[2] https://www.em.com.br/app/noticia/politica/2023/04/15/interna_politica,1481769/doria-se-arrepende-do-apoio-a-bolsonaro-pior-presidente-que-o-brasil-teve.shtml

therefore, larger municipalities may make it increasingly difficult to not only implement but consider enacting unpopular health policies.

This paper contributes to our understanding of policymaking during periods of crisis in theoretically important ways. First, it highlights the importance of empirically testing the conventional wisdom at different levels of analysis. While the vast majority of research on the COVID-19 pandemic has been at the national and state levels in Brazil, little research has looked at the political dynamics and motivations of municipal-level policymakers, bureaucrats, and citizens. This is problematic because municipal-level policymakers face incentives and obstacles different from governors and national policymakers. Second, the paper expounds on a rich literature of presidential federalism, decentralization, and health policies during times of crisis in the Global South, which can provide lessons for future pandemics.

2. Brazilian Healthcare During the Pandemic

2.1 Brazil's Health Structure

The decentralization of Brazil's health structure, as a result of the return to democracy and a fiscal crisis of the 1980s and 1990s, provided the framework for its universal care system. Brazil's constitution outlines the definitions, principles, and responsibilities of the state to the people. Of importance, Brazil defines health as a universal right and a state responsibility. SUS (Sistema Único de Saúde) is the public health provider in Brazil and has three underpinning principles. These are: the universal right to comprehensive healthcare at all levels of complexity (primary, secondary, tertiary), decentralization with responsibilities at the three governmental levels (federal, state, and municipal), and social participation in formulation, monitoring, and implementation of health policies through federal, state, and municipal health councils.

The healthcare system mirrors Brazil's federal structure: municipalities are responsible for primary healthcare, state governments for more complex health services, and the federal government for coordinating the whole system and partially funding local health programs under the Ministry of Health (Ribeiro et al., 2018, p.1780). Each level of government works in tandem with another to provide healthcare to Brazilians. For example, an individual who receives preventative healthcare or screening services at their local UBS (Unidad Básica de Sáude) can seek additional health services at their closest city center hospital.

The rapid expansion of primary care has changed the patterns of use, with a growing share of contacts taking place in health centers and other primary care facilities. Over time, the use of services has increased, and the share of Brazilians who cannot access these services due to financial reasons has decreased (Gragnolati et al., 2013, p.105).

Every level of government has its own health department and secretary with different sets of responsibilities. At the federal level, the Ministry of Health executes national health policy, finances local health services, has national control of medicines (under the Chamber of Drug Price regulations), services, and technologies for SUS, and coordinates health information and surveillance. The state secretary of health organizes regional health in the state, preauthorizes health services in the SUS region of the state, provides strategic delivery of programs and medications, and ensures health surveillance in strategic areas. Finally, the municipal health secretary ensures local health system coordination, direct delivery, and contract of health services — public (state and federal) or private (non-profit or for-profit)— and provides the municipal list of medicines and health surveillance. The most basic healthcare unit in Brazil is the UBS, which aims to provide healthcare to 80% of the country's population without having to refer them to hospitals or emergency care.

In addition to the three levels of healthcare governance, the tripartite (Comissão Intergestores Tripartite, CIT), bipartite (Comissão Intergestores Bipartite, CIB), and inter-regional (Comissão Intergestores Regional, CIR) commissions ensure discussion and collaboration in the creation of health policy, across and between levels of government. These commissions have played an important role in regionalizing healthcare beyond legally sanctioned state and municipal limits. These instances include metropolitan areas where it makes sense to coordinate health policy in a concentrated area of municipalities, such as the Metropolitan Region of São Paulo (Região Metropolitana de São Paulo, RMSP) with its 39 municipalities, or in suburban or rural regions where the lack of technical expertise or research makes regionalization an attractive choice. In the latter case, collective entities such as COSEMS (Conselhos de Secretarias Municipais de Saúde) play an important role in advocating and advising all municipalities, especially smaller ones.[3]

[3] COSEMS can be found in all 26 Brazilian states and all function with the stated purpose of advocating and supporting municipalities, with goal of maintaining and improving health.

Brazil's decentralized healthcare system offered many opportunities to combat the pandemic; however, the lack of leadership and the executive's denial of the effects of the pandemic led to a haphazard response. This is surprising given Brazil's history of responding to disease outbreaks and Bolsonaro's attempts to prepare a response.

2.2 Brazil and COVID-19

On paper, the federal government guides states and municipalities through a series of frameworks, legislation, and funding during times of crisis. Because Brazil lacks a federal-level agency capable of handling certain crises, such as disasters, portions of the executive branch, state, or municipal governments are used. Under normal political circumstances, when a novel illness poses a threat (such as the Zika virus in 2015), the Ministry of Health, National Health Council, and Brazilian Health Regulatory Agency (Agencia Nacional de Vigilância Sanitária, ANIVISA) work together to address the crisis (Rodrigues et al., 2021). At first, Bolsonaro's government initiated a national response to COVID-19, but instability within the Ministry of Health, combined with President Bolsonaro's undermining of epidemiological best practices, generated a delayed response.

In the beginning, the Bolsonaro Government initiated the necessary precautions in the event of an outbreak of the novel COVID-19 in Brazil. On February 3rd, 2020, the Ministry of Health declared a public health emergency (vis-a-vis Ordinance 188) in reaction to the spread outside of Brazil. Amongst its many actions, the ordinance established the creation of a Public Health Emergency Operations Center (COE) under the supervision of the Health Surveillance Secretariat (SVS/MS) under then-Minister of Health Luiz Henrique Mandetta.[4] On February 6th, 2020, President Bolsonaro enacted Law 13,979, which set out measures to combat the pandemic, including compulsory isolation, quarantines, medical examinations, laboratory tests, collection of clinical samples, vaccinations, epidemiological studies, review and handling of corpses (e.g., exhumations, autopsies, and cremation, etc.), exceptional and temporary restriction of entry and exit to and from

[4] Among its many responsibilities, the Ministry of Health tasked the COE with 1) planning, organizing, coordinating, and controlling the measures to be used during the national public health emergency; 2) coordinate with the state, district, and municipal SUS managers; 3) forwarding technical reports of the national public health emergency and actions in progress to the Ministry of Health; 4) disclose population information related to the national public health emergency; 5) propose the activation of health teams, acquisition and requisition of goods and services necessary for the public health emergency, and an estimated timeline for the sun-setting of the national health emergency to the Ministry of Health. For exact language, please refer to the following link: https://www.in.gov.br/web/dou/-/portaria-n-188-de-3-de-fevereiro-de-2020-241408388

the country, and exceptional and temporary authorization for the import of products not subject to health surveillance not registered with ANIVISA.[5] Finally, on February 13th, 2020, the Ministry of Health presented the National Contingency Plan for Human Infection by the Novel Coronavirus, which laid out the following lines of action: surveillance, laboratory support, infection control measures, pharmaceutical assistance, health surveillance, health measures at points of entry (ports, airports, and border crossings), and risk communication and management. These three federal acts created the framework for a national response plan before the first Brazilian case of COVID-19 on February 26, 2020.

The federal government had initiated a response plan, but the combination of President Bolsonaro's argument that COVID-19 was not a threat, the proposal that herd immunity through infection or transmission was a plausible way to create natural immunity,[6] trivializations of deaths and damage caused by disease[7], focus on assistance rather than prevention measures, attacks against the press, and the systematic obstruction of containment measures promoted by governors and mayors all undermined at any attempt to promote a robust response from the federal branch. Additional attempts to thwart a scientifically driven pandemic response included revising the original framework to create a list of essential services that could not be prevented and requiring pre-authorization from federal regulatory agencies before any measures could be enacted at the state and municipal levels (Rodrigues et al., 2021). Under these conditions, states and municipalities challenged federal authority by asking federal courts to intervene.

On April 1st, 2020, the Federal Council of the Brazilian Bar Association (OAB) requested an injunction from the Supreme Federal Court (STF), forcing President Bolsonaro to comply with the World Health Organization's recommendations, allow state governors and mayors to undertake actions related to economic activities and public gathering rules, implement emergency benefits for those affected by the pandemic (including the unemployed, self-employed, and informal workers),

[5] For the exact wording, please use this link: https://www.in.gov.br/en/web/dou/-/lei-n-13.979-de-6-de-fevereiro-de-2020-242078735

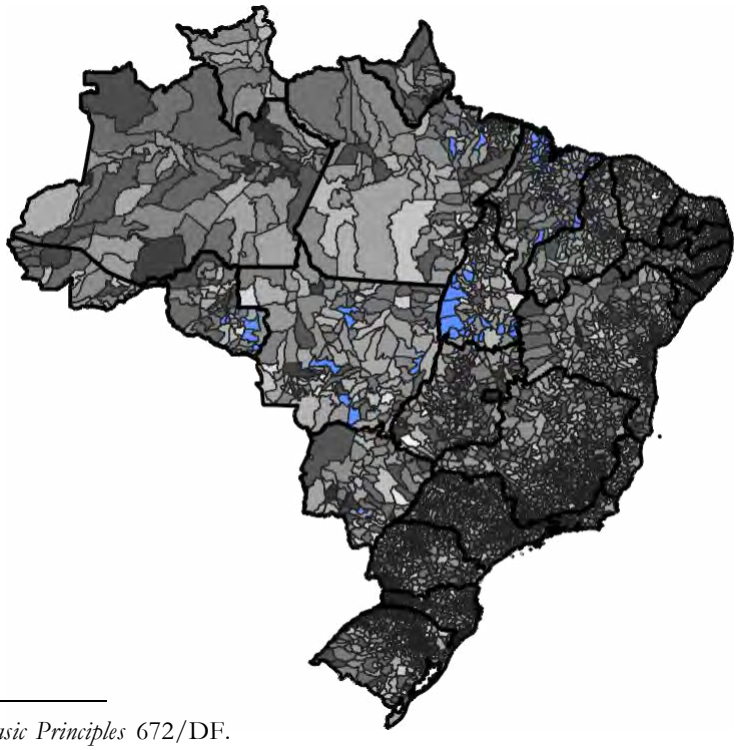
[6] At this point, many, including President Bolsonaro, believed that the exposure of the vast majority of the public in a short period of time would allow each person's immune system to create antibodies to protect an individual and allow for control of the pandemic. However, as the WHO explains, the idea of herd immunity comes from protecting individuals through immunizations as a proactive measure to protect individuals from disease, not by exposure.

[7] The president at the time promoted the idea that only elderly people, those with comorbidities, or those without access to early treatments (many of which international organizations would deem ineffective, such as chloroquine and hydroxychloroquine) would be the ones to die, thereby creating a false sense of security amongst his supporters.

and include families from the waiting list in the Bolsa Familia program.[8] On April 8th, 2020, the Supreme Federal Court ordered that President Bolsonaro refrain from issuing directives contrary to those of state and municipal entities and reinforced the authority of states and municipalities to enact restrictive measures, such as social distancing, isolation, lockdowns, suspension of educational instruction, and restrictions on industrial, commercial, cultural activities, and the free movement of people.

This decision represented a break in the court's position of upholding federal power. Indeed, in a majority of cases, the federal government benefits from a centralized structure whereby most areas fall under its purview as dictated by the Brazilian Constitution (Aroney & Kincaid, 2017, pp. 133-134). However, in this instance, the Supreme Federal Court cited the federal government's refusal to preserve life and human rights as the motivating factor for empowering states and municipalities. With the court's reassurance, states and municipalities began to enact a series of measures in an effort to stop the transmission of cases. However, as mentioned previously, these efforts were not uniform.

Figure 1: COVID-19 Policy Implementation Map



[8] See *Non-Compliance of Basic Principles* 672/DF.

As Figure 1 shows, there is significant variation in the implementation of COVID-19 policies both within and across states and municipalities. Municipalities that implemented more policies against COVID-19 are shaded darker grey and black, while those that implemented fewer policies are lighter shades of grey (missing data for municipalities is indicated in blue). The state with the most missing data is Tocantins, which has seen less infrastructure development and may have had trouble collecting COVID-19 data at the time of the survey. This map is striking for several reasons.

First, the level of policy adoption does not strictly follow political lines, per se. We would expect Southern states, which showed more support for Bolsonaro during the 2018 national elections, to adopt few, if any, COVID-19 policies. This is because jurisdictions where Bolsonaro had a stronger showing may have believed or convinced that COVID-19 was not as serious as international organizations and some politicians claimed it to be. However, as Figure 1 shows, the number of policies adopted is similar, if not greater, than some areas of Northeastern Brazil, where support for presidential candidate Fernando Haddad was greatest and historically has been a leftist stronghold.

Second, the implementation of policies varied within states. This is odd because, in theory, state decrees should have made COVID-19 implementation uniform across municipalities unless a municipality decided to implement additional policies. For example, the state of São Paulo mandated municipalities adopt a minimum number of COVID-19 policies, such as mask mandates and school closures, which fluctuated based on the São Paulo Plan (Plano São Paulo). When the plan was adopted on May 27, 2020, municipalities needed to follow a set of quarantine measures, which can be more restrictive or flexible based on the number of COVID-19 cases, deaths, and bed occupancy rates within a health region. The state is divided into 17 health regions, which monitor and provide epidemiological information to the major city that represents that region. All cities belonging to the same health region are governed by the same quarantine measures, in theory.[9] Yet, this plan was not always followed.

For instance, Shopping Esplanada, a major commercial mall split between two cities, Sorocaba and Votorantim, had half of their non-essential stores closed on the Sorocaba side, while the other half remained open on the Votorantim side. In theory, the entire mall should have been closed because it

[9] In São Paulo, there were five phases: red, orange, yellow, green, and blue, with red being the direst situation and blue being business as usual.

fell within the same health region, yet the Votorantim side stayed open, even after the Public Ministry threatened to sue the city.[10] Additionally, there were some municipalities in São Paulo that implemented stricter measures to ensure the safety and welfare of their citizens. For example, Araraquara implemented one of the most severe lockdowns in the state, and arguably in the nation. Whereas most cities permitted some degree of movement in supermarkets and public transport, Araraquara closed all services except those directly tied to healthcare. The city mandated all supermarkets to deliver groceries and had strict curfews to enforce the lockdown.[11] These examples highlight some of the ways municipalities differed in their policy implementation despite the state plan. What explains the variation in policy implementation? Past research has pointed towards three common explanations for the implementation of COVID-19 policy: political alignment during polarizing periods, state health capacity, and policy diffusion.

3. Theory and Hypotheses

In recent years, scholars have pointed to three reasons for the implementation of COVID-19 policies: political alignment in polarizing periods, state health capacity, and policy diffusion. While these explanations have been able to explain national and state-level behavior in relation to the COVID-19 pandemic, their ability to explain local-level phenomena has not been fully explored. Moreover, other reasons, such as medical leadership, could explain why, despite the conventional wisdom of partisanship and state health capacity, local governments may adopt other behaviors instead.

3.1 Political Alignment and Polarization

Political alignment with the executive highly correlates with support of the executive's policies, particularly in times of crisis. A fundamental rule of thumb in political science holds that most politicians are motivated by reelection, either for themselves or their party, especially during times of crisis. In disaster settings, American scholars argue that citizens reward politicians based on their actions during a crisis rather than preparing for one (Healy & Malhotra, 2009; Gailmard & Patty, 2019). In a pandemic, one could logically conclude that politicians who mitigate the adverse effects

[10] https://g1.globo.com/sp/sorocaba-jundiai/noticia/2020/06/24/shopping-dividido-entre-cidades-nao-atende-recomendacao-do-mp-sobre-fechamento-de-lojas.ghtml
[11] https://www.bbc.com/portuguese/brasil-56640000

(e.g., minimizing the number of cases and deaths, enacting legislation to provide economic support, or otherwise providing resources to combat the spread) would be rewarded by voters. However, due to the increasingly polarized[12] nature of politics, situations that would have once commanded bipartisan attention have become mired in controversy, inaction, and heated debates, including judicial appointments (Barber et al., 2015; Persily, 2015; Hasen, 2019), declining legislative production (Binder, 1999; Barber, 2016), increasing income inequality (McCarty et al. 2016; Barber 2016), and decreasing trust in government (Galston & Nivola, 2006; Barber, 2016). The response to the pandemic has also fallen victim to polarized politics.

With the advent of the novel COVID-19, most countries took the threat of the pandemic seriously, with a few exceptions – such as the United States and Brazil. Presidents Trump and Bolsonaro underplayed the gravity of the disease, undermined public health professionals, and spread misinformation to their supporters. From their perspectives, the recommended public health best practices were worse than the actual disease because they prevented normal economic activities from taking place. The question is not whether the Presidents' claims are based in fact: If a voter believes and acts on the reality promoted by political elites, then they will reward the politician based on that reality. And voters who believed President Bolsonaro might reward them for not taking "unnecessary" actions that threatened their economic livelihoods. The same may hold true of political parties; political elites support unfounded "facts" that may be detrimental to democracy because showing disloyalty may be punished at the polls (Graham & Svolik, 2020). But while party polarization in the United States is sorted between two principal political parties, party polarization differs in the Global South, where multiple parties vie for control over the legislature and electorate.

Polarization theories in the United States do not easily translate to Brazil. Despite recent political turmoil, some scholars argue that Brazil has low levels of ideological and partisan polarization compared to other countries due to its political institutions (Mignozzetti & Spektor, 2019, p.229).[13]

[12] I closely align with the definition and criteria set forth by Carothers & O'Donohue (2019, pp.7-8), which they call "severe polarization." The three criteria of this definition include: 1) a fusion of elite and mass polarization; 2) a binary division; 3) a sustained division beyond the rule of a specific polarizing leader. For a more recent debate on the definitions and uses of polarization, please see Lee (2015).

[13] Instead, the authors argue that Brazilians suffer from high degrees of anti-establishment sentiment due to the nature of the presidential coalitional structure of Brazilian politics, which emphasizes a party's ability to collect powerful Cabinet positions and stream of revenue to their constituencies, rather than stable and cohesive political party platforms, though there are some exceptions, such as the Worker's Party (PT), which has remained relatively stable in finding success at the federal level. Even so, PT critics would argue that the party has abandoned its leftist roots, since the

Mignozzetti & Spektor (2019) argue that multiparty presidentialism, electoral rules, clientelism, and the weakness of oversight institutions have decreased levels of polarization because the political environment incentivizes collusion and corruption among political parties.

Because no one party controls the Brazilian legislature outright, parties are forced to compromise and work with one another through a series of coalitions fueled by pork barreling, legislative diversions, and Cabinet appointments (Ames, 1995; Desposato, 2006; Junior et al., 2015; Chaisty et al., 2018). Brazil's "coalitional presidentialism" diffuses the potential for polarization because parties do not compete under strict ideological lines. Indeed, one could argue that many Brazilian parties do not have clear ideological agendas or are too short-lived to develop one that gains traction with voters. In their cross-regional analysis of countries with coalitional presidentialism models, Chaisty et al. (2018, pp. 40- 41) argue that the same parties who supported the center-right government of Fernando Henrique Cardoso (Party of Brazilian Social Democracy, PSDB), the Brazilian Labour Party (PTB) and Liberal Front Party (PFL) - would later support the presidencies of the center-left Worker's Party's (PT) Luis Inácio Lula da Silva (2003-2010) and Dilma Rousseff (2011-2016).

Alternatively, it could be that citizens and politicians respond to particular elite cues rather than party labels, though current studies have reached inconclusive results. Rather than having a preference regarding COVID-19 policy, voters choose their candidate and then adopt their policy views (Lenz, 2013). In other words, Bolsonaro supporters may feel less inclined to support politicians who do not follow the President's pandemic views. Given the rise of social media usage in Brazil, recent studies show elite cues on social media influence citizen perceptions of personal job and health risks (Calvo & Ventura, 2021; Arugete et al., 2021; Aruguete, Calvo & Ventura, 2021). As a result, subnational political elites may follow national elites, like Bolsonaro, because voters may punish disloyalty at the polls (Graham & Svolik, 2020). On the other hand, other studies show no clear relationship between elite cues, partisanship, and policy implementation. Although opposition governors seemed to implement pandemic-related policies with greater speed and intensity than those aligned with Bolsonaro, there have been exceptions to the rule (Touchton et al., 2021).

First, many governors, whose parties were aligned with Bolsonaro, disassociated with the president when the number of infections and deaths rose during the first wave in Brazil. Despite Bolsonaro's

party's inception in the 1980s.

public opposition, federal leaders, ministers, and an alliance of twenty-five of the twenty-seven state governors decided to continue state lockdowns (Bennouna et al. 2021). Second, the governors of Minas Gerais, Rio de Janeiro, São Paulo, and Espírito Santo — all from different political parties — banded together to oppose President Bolsonaro when he proposed a national policy limiting a state government's ability to impose lockdowns and other pandemic related policies in June 2020 (Bennouna et al., 2021). Third, regional coordination amongst state governors was clear as the Northeast region of Brazil imposed the strictest pandemic measures in the entire country. Prior to the pandemic, the nine Northeast governors participated in a regional consortium, which discussed a variety of issues, including agriculture, economic growth, and health policy. Coordination between governors and mayors is not that common in Latin America but very common in Europe (see Hanna Kleider's work on regional and subnational coordination during COVID-19 in Europe, the US, and Canada). Despite these state-wide regional associations, there have been few, if any, studies looking at how polarization, political alignment, and elite cues could influence decision-making at a local level. Following the aforementioned literature review, we could potentially expect the following:

- **Hypothesis 1a:** Parties aligned with Bolsonaro should see few, if any, COVID-19-related policies implemented at the municipal level.
- **Hypothesis 1b:** Parties not aligned with Bolsonaro should implement more COVID-19-related policies, relative to aligned Bolsonaro parties, at the municipal level.

3.2 Health State Capacity

Nations rarely start from scratch when it comes to their healthcare systems. Over the past 25 years, Brazil has allocated significant financial and logistical resources to provide universal healthcare. These investments have produced positive and notable results, at least on paper.[14] The public system has demonstrated a high degree of competence in tackling epidemics and pandemics, including yellow fever, dengue, malaria, and HIV/AIDS. Brazil also has a distinguished reputation for vaccine distribution. The National Immunization Program, founded in 1973, was integral in expanding vaccination rates and preventing diseases, including the elimination of polio and rubella (Domingues et al., 2020). State and municipal authorities work with the federal government to obtain access to

[14] Despite the universality of Brazil's constitution and SUS laws, there are important gaps in coverage, especially in remote areas.

over 20 types of vaccines free of charge (da Fonseca et al., 2021). But, more importantly, the government has historically invested enormous sums of money in its facilities. Since the early 1980s, the number of health facilities has increased from nearly 22,000 in 1981 to almost 75,000 in 2009 (Gragnolati et al., 2013, p.26). While the number of hospital beds has remained the same over the same period of time, the number of outpatient facilities has grown from 1.3 facilities per 10,000 in 1981 to 3.6 in 2009, suggesting a focus on primary healthcare (Gragnolati et al., 2013, p.26).

However, in the past 10 years, a series of changes have created a gradual disinvestment in public health. In 2016, Constitutional Amendment 95, also known as the Public Spending Ceiling Constitutional Amendment, was approved. This amendment modified the 1988 Constitution to change the fiscal ceiling regulations for the federal government. In other words, areas such as education and health, which enjoy certain fiscal minimums from the government, would have their shares decreased as the ceilings would be set to the previous minimums. In other words, even if the federal budget were to grow, the education and health sectors would not experience an increase in their fiscal portions. The federal government implemented this measure as a way to balance the budget and decrease Brazil's fiscal deficit from the 2014 economic crisis. In reality, this meant that states and municipalities had to cut back on services or increase the healthcare percentage of the municipal budget.

Given the country's high level of political and fiscal decentralization, officials at the municipal level have substantial discretion over SUS expenditures. Although 91% of the federal health budget was centralized in 1994, the federal share fell to only 33% percent by 2005 (Falleti, 2010, p.182). Meanwhile, the municipal share increased from 2 to 40%, providing local politicians with substantially more discretion in resource allocation (Falleti, 2010, p.182; Cities & Governments, 2008, p.174). But decentralization has also had another effect, namely the underfunding of municipalities in North and Northeast Brazil. Decentralization allows richer territories to raise more funds relative to their poorer counterparts, ceteris paribus. These disparities are translated regionally, whereby southern states like São Paulo (32.5%), Rio de Janeiro (10.2%), Minas Gerais (8.7%), Rio Grande do Sul (6.5%) and Paraná (6.4%) account for more than half of Brazil's GDP, compared to only 20% of GDP combined from the North and Northeast states.

This means that richer territories can dedicate more resources towards health, but it also means that individuals can supplement or all together substitute their public healthcare coverage for private coverage. Disparate state capacities can lead to adverse health outcomes. These adverse health outcomes, as a product of everyday health politics, may influence how a jurisdiction responds during a pandemic. Well-resourced hospitals should have the resources and personnel to fare better than those that do not. At the same time, municipalities with higher GDPs can also be an indicator of higher education. Higher education can be positively correlated with a greater acceptance of these measures for many reasons. One, individuals with formal employment can transfer their work to home settings, relative to those who rely on informal employment. Two, poorer families had to decide between staying at home or going to work. Merike Blofield's work on income replacement during the COVID-19 pandemic explains why poorer families in Brazil were able to better abide by COVID-19 restrictions relative to Mexico, which did not implement income replacement programs (Blofield & Hoffmann, 2020). With these things in mind, we can hypothesize the following:

- **Hypothesis 2a:** Wealthier municipalities will implement more measures than poorer municipalities because they have the state capacity necessary to implement these policies.
- **Hypothesis 2b:** Poorer municipalities will implement more policies because they may not have the necessary resources to substitute or replace incomes for their citizens.

3.3 Policymaking as a Medical Professional

The majority of literature centered around the COVID-19 response treats experts and politicians as two distinct categories, usually either with the former advising the latter or as technocrats within the bureaucracy (Cole et al., 2022; Funk et al., 2019; Hamilton & Safford, 2020; Van der Linden et al., 2019). In Brazil, governors and mayors asked doctors, epidemiologists, nurses, and other health-related professionals to serve on COVID-19 recommendation committees. These committees provided governors and mayors with a series of recommendations based on scientific evidence and best practices for preventing the spread of COVID-19. However, these were only recommendations, and a series of factors – including the polarization of certain measures like social distancing, school and business closures, and mask mandates – proved highly unpopular or difficult to implement with the general public. At the same time, medical associations pushed local and state politicians to adopt stronger measures and, in some cases, resorted to public demonstrations regarding the lack of PPR, ventilators, and compensation. Does being a medical professional prior to

being mayor matter when it comes to pandemic policymaking? Do medical associations influence the adoption of policy implementation?

Having a medical professional as a local leader can lead to increased adoption of COVID-19 policies for several reasons. First, medical professionals, more so than the average politician, have first-hand experience dealing with illness and death and understand the consequences of inaction in a medical emergency. As such, local contexts matter when it comes to policy advocacy. In the United States, Bonica et al. (2020) and Bonica et al. (2014) found that where new doctors moved after residency — depended on their ideological preferences, subsequently influencing their medical opinions. In urban settings, doctors worried most about gun violence and gun legislation, while in rural settings, they worried most about drug use. Therefore, doctors are more keenly aware of the local health circumstances relative to the average politician and may have intimate knowledge of the municipality's health risks. If a medical professional is elected mayor, they may leverage this prior knowledge, especially in smaller communities.

Second, doctors and nurses are socialized to a set of professional standards and ethics. One of the core tenets of the medical community is the Hippocratic Oath, which requires doctors to adopt a series of healing principles, most notably the promise to never harm their patients. As a result, physicians may be more proactive in eliminating potential risks that could endanger their patients' lives. These professional standards could then transfer to the political realm, as physicians-turned-politicians may be more inclined to create and adopt policies to mitigate illness and death – especially during a pandemic – than a non-medical professional. They may support the greater adoption of health policies, such as acquiring and distributing face masks, implementing health checkpoints, sanitizing public areas, enforcing health guidelines through community patrols, and instilling hygiene centers.

Third, medical professionals work within hospitals and clinics and have some sense of institutional health capacity. Standard operating procedures (SOPs) reflect the health capacity of a hospital. These SOPs sort and classify patients to determine priority of need and place of treatment. During an infectious disease outbreak, medical facilities separate suspected infected patients from healthy ones. Given Brazil's decentralized health system, medical professionals could have been aware of the

lack of medical capacity prior to the pandemic and may have been proactive with the implementation of COVID-19 measures.

However, not all medical professionals follow the best science and medical standard standards of care for preventing or treating COVID-19.[15] In fact, some of these medical professionals use their degrees as leverage against the medical establishment to promote alternative, ineffective, or miracle cures to their followers. A recent study found that a dozen individuals and organizations were responsible for about 65% of disinformation targeting the COVID-19 vaccine as ineffective and dangerous on Facebook, Twitter, and Instagram. Of the 12 individuals or organizations, several are board-certified medical or osteopathic physicians. In Brazil, Prevent Senior, a private hospital organization with 10 hospitals in São Paulo, enlisted participants to test unproven treatments for COVID-19 without informed consent and forced doctors to follow along. In early March 2020, families of the diseased denounced the hospitals associated with the organization. The city of São Paulo's health secretary noted multiple suspected cases of COVID-19 that were not reported, including cases that ended in death.

Having a medically trained mayor does not guarantee full implementation of COVID-19 measures. The mayor's power to address the health crisis through decrees and regulations depends on the health emergency and state of public calamity, which have expiry dates and can be curtailed or extended at any time by the legislature. This means that, in order to pass any decree, the municipal executive must have the cooperation of the local council. As a result, we could expect the following:

- **Hypothesis 3a:** Municipalities whose mayors have medical knowledge or previously practiced medicine will implement more policies, on average, regardless of political affiliation.
- **Hypothesis 3b:** Municipalities whose mayors have medical knowledge or previously practiced medicine will implement more health-related COVID-19 policies, such as disinfection of public squares and mask mandates, on average, than a non-medical mayor.

3.4 Policy Diffusion

[15] https://www.npr.org/sections/health-shots/2021/09/14/1035915598/doctors-covid-misinformation-medical-license

Policy diffusion holds that governments are more likely to adopt a policy if and when a neighboring government adopts the policy (Shipan & Volden, 2008, p.840). In this case, I refer to municipalities as the unit of analysis that acts. In reality, individual decision-makers — mayors, managers, council members, bureaucrats, and others — are the critical actors crafting, adopting, and implementing policies in municipalities. I make an assumption common in the diffusion literature, namely that policymakers adopt beneficial policies, either to secure reelection, reappointment, or to deter the adverse effects of a pandemic.

Diffusion depends on four mechanisms: learning, economic competition, imitation, and coercion (Shipan & Volden, 2008, p.841). Learning is most associated with the "laboratories of democracy," or the idea that subnational territories can innovate and experiment with new policies that are then adopted by other states or municipalities. When municipalities face a problem, such as the COVID-19 pandemic, they may take the path of least resistance by adopting proven policies instead of devising new ones. City leaders adopt these policies when they have been proven successful, either through their duration or impact in several jurisdictions. In the case of the COVID-19 pandemic, municipalities may follow best health practices outlined by other international associations, such as the World Health Organization, and local medical or inter-regional health entities. The success of these policies should be observable to policymakers, bureaucrats, and researchers, but when they are not, individuals may rely on other factors, such as the adoption and persistence of a policy over time. For example, Brazil's Bolsa Escola, an education, and Programa Sau´de, a family health program, have been adopted throughout Brazil's largest cities as a result of ideological and professional network considerations (Sugiyama, 2008, p.193).

The second mechanism, economic competition, states that municipalities adopt policies when economic spillovers produce positive economic externalities. Due to the contagious nature of COVID-19, municipalities have every incentive to coordinate with each other to prevent further infections and deaths. Because increased infections can produce negative externalities on local resources, policies that are enacted collectively can help encourage other mayors, health officials, and researchers to cooperate.

Third, imitation or emulation occurs when governments copy the actions of another to look like the government. Emulation is different from learning in that learning focuses on a policy's effectiveness,

process, and outcome, whereas emulation focuses on the government itself. In other words, governments may copy other governments without regard to the policy.[16]

Finally, the last mechanism, coercion, suggests governments forcing or strongly pressuring other governments to adopt certain policies to conform with national or international expectations and norms. This can take the form of sanctions or the withholding of block grants and funds. However, this is not entirely the case in Brazil. While one could argue that the federal government's attempts to block certain COVID-19 measures, such as business closures and social distancing, could be interpreted as a form of coercion, the lack of success, particularly after the Supreme Federal Court's ruling, rules out this possibility. The more appropriate example of coercion would be instances whereby state governments penalized municipalities for not taking particular measures, such as closing schools. Because municipalities often acted in accordance with state orders and took additional steps to prevent the spread and effects of COVID-19, coercion was not only rare but often unnecessary.

From this literature, we could expect the following:

- **Hypothesis 4a:** Municipalities are more likely to adopt COVID-19 measures if they interpret policies as successful or effective through collective interactions. (Learning hypothesis).
- **Hypothesis 4b:** Municipalities are more likely to adopt COVID-19 measures if neighboring municipalities are doing the same (**Emulation hypothesis**).
- **Hypothesis 4c:** Municipalities are forced to adopt COVID-19 measures by state governments (**Coercion hypothesis**).

4. Research Design

4.1 Data

This article's data emanates from two sources: observational survey data and interviews. The observational survey data comes from the Basic Municipal Information Survey 2020 (MUNIC,

[16] Shipan & Volden (2008, p.843) put it nicely when they made the analogy, "Learning is avoiding touching the hot burner after observing someone doing so with bad effects, whereas imitation is jumping off the garage roof after observing your older brother doing so, without regard to the consequences. In the former case, it is the action that matters; in the latter, the actor."

2020), which was conducted by the Brazilian Institute of Geography and Statistics (IBGE). Since 1999, the survey has presented, at regular intervals, detailed information on the structure, dynamics, and operations of public municipal institutions. MUNIC covers all 5,570 municipalities in Brazil and contains information on housing, transport, sanitation, agriculture, and the environment.

In 2020, IBGE surveyed municipalities on a variety of pharmaceutical and non-pharmaceutical interventions, including mask mandates, attempts to increase health state capacity, health monitoring and surveillance, and educating the general public.[17] Due to the pandemic, the data collection took place, for the first time, over the Internet, via a web system, or through an editable questionnaire sent by email to all 5,570 municipalities. Data collection took place between September 2020 and March 2021 for the reference period of January 2020 to December 2020. This process ensured that the data collected was for the administration prior to the municipal elections of November 2020.

Given the dichotomous responses to the survey, I created two new indices to capture the implementation of COVID-19 policies. The first index considers the 55 items surveyed by IBGE. Of the 55 items, 47 items are considered direct actions, or measures, that municipalities could take to prevent the spread of COVID-19 or alleviate the pandemic's adverse effects. The following items were not included in first index: Mcov011c (decree issue month), Mcov056 (anticipated a 13th salary), Mcov07 (clinically confirmed COVID cases), Mcov09 (need for hospitalizations), Mcov10 (the number of hospitalizations exceed the municipal state capacity), Mcov14 (need to refer patients), Mcov15 (need to keep people for more than 24 hours), Mcov16 (did any death occur). These survey items ask about certain situations or characteristics of a municipality during the pandemic, not direct actions or measures. The second index contains 10 items declared by entities like the World Health Organization and other health bodies to be crucial to addressing the pandemic. These measures include Mcov03 (sanitary barriers), Mcov051 (disinfection of neighborhoods), Mcov053 and Mcov063 (adoption of a mask mandate and distribution of masks), Mcov0510 (the distribution of food baskets to public school students), Mcov064 (the distribution of food baskets and credits to families), Mcov13 (field hospitals installed), Mcov08 (triage tents installed), Mcov01 (social isolation measures adopted), Mcov02 (enforcement and monitoring of these measures).

[17] A complete list of all measures, descriptions, and their source can be found in the Appendix.

Table 1 demonstrates descriptive statistics of each individual measure. Column N captures how complete the data is relative to each variable. At the highest end, the data for some variables is about 98% complete, while at the lowest end, it is about 53% complete. Additionally, I included regional descriptors of missingness for each variable. In cases where the data is mostly complete (around 98%), the missingness of the data stems from the North and Northeast municipalities, which historically have difficulties responding to institutional surveys. To complement these measures, I included health indicators, including live births, SUS and non-SUS beds (public and private), doctors and nurses, ACS community visits,[18] federal and state COVID-19 fiscal transfers to municipalities, and municipal GDP. All of these measures come from the Brazilian Ministry of Health's DataSUS, System on Public Health Budgets (SIOPS) portal, or IBGE data portals. Due to the level of economic inequality in Brazil, I performed a logarithmic transformation on GDP indicators and indexed health indicators. For political variables, I included the winners of the 2016 and 2020 mayoral races, their political parties, and their vote shares. This information comes from the Superior Electoral Tribunal (TSE, 2016).

To understand the political motivations for the implementation of COVID-19 policies, I interviewed academics, public health officials (municipal health secretaries and front-line health workers), city council members (vereadores), mayors (prefeitos), religious leaders, police officers, and judicial officials. These interviews provided important theoretical and potential causal mechanisms between public officials and their rationales for implementing certain policies.

[18] The Community Health Agent (ACS) program began in the late 1980s as an initiative by some areas of the Northeast to improve health conditions in their local communities. ACS workers travel through government and community spaces to mediate the people's needs. This includes helping families register for social programs, updating documents required to access social welfare programs, and providing education on how to care for certain diseases through a preventive model.

Table 1: Summary Statistics of MUNIC COVID-19 Measures

Measure	Mean	SD	Min	Max	N	North	Northeast	Center-west	Southeast	South
Mcov01	.9864	.1158	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov02	.5212	.4995	0	1	5381 (96.60%)	53 (11.78%)	69 (3.85%)	15 (3.21%)	27 (1.62%)	25 (2.10%)
Mcov03	.7597	.4272	0	1	5466 (98.13%)	42 (9.33%)	51 (2.84%)	7 (1.50%)	0 (0.00%)	4 (0.34%)
Mcov0311	.7598	.4272	0	1	4152 (74.54%)	87 (19.22%)	180 (10.03%)	129 (27.62%)	428 (25.66%)	594 (49.87%)
Mcov0312	.8658	.3408	0	1	4152 (74.54%)	87 (19.22%)	180 (10.03%)	129 (27.62%)	428 (25.66%)	594 (49.87%)
Mcov0313	.1914	.3935	0	1	4152 (74.54%)	87 (19.22%)	180 (10.03%)	129 (27.62%)	428 (25.66%)	594 (49.87%)
Mcov04	.7094	.4540	0	1	5462 (98.06%)	43 (9.56%)	53 (2.95%)	7 (1.50%)	1 (0.06%)	4 (0.34%)
Mcov051	.7892	.4078	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov052	.7239	.4470	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov053	.9452	.2274	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov054	.7764	.4166	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov055	.5909	.4917	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov056	.1714	.3769	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov057	.7848	.4109	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov058	.7866	.4096	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0510	.7296	.4442	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0511	.1028	.3037	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0513	.1126	.3162	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov061	.4986	.5000	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov062	.3072	.4614	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov063	.7371	.4402	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov064	.6725	.4693	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov065	.5569	.4967	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov066	.1379	.3448	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov067	.1245	.3302	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov068	.0993	.2991	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov069	.2140	.4101	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0610	.5754	.4943	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0611	.5842	.4928	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0612	.1088	.3114	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0613	.3283	.4696	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0614	.3402	.4738	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0615	.6495	.4771	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0616	.3950	.4889	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0617	.2621	.4398	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0618	.5814	.4933	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0619	.4404	.4964	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov0620	.3451	.4754	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov07	.9967	.0572	0	1	5467 (98.15%)	42 (9.33%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%)
Mcov08	.5527	.4960	0	1	5446 (97.77%)	45 (10.00%)	55 (3.07%)	8 (1.71%)	8 (0.48%)	8 (0.67%)
Mcov09	.9376	.2418	0	1	5449 (97.82%)	44 (9.78%)	53 (2.95%)	8 (1.71%)	8 (0.48%)	8 (0.67%)
Mcov10	.2359	.4246	0	1	5106 (91.66%)	52 (11.56%)	144 (8.03%)	33 (7.07%)	144 (8.63%)	91 (7.64%)
Mcov11	.5824	.4932	0	1	5108 (91.70%)	52 (11.56%)	142 (7.92%)	33 (7.07%)	144 (8.63%)	91 (7.64%)
Mcov121	.6312	.4825	0	1	2975 (53.41%)	206(45.78%)	807 (44.98%)	212 (45.40%)	744 (44.60%)	626 (53.56%)
Mcov122	.2621	.4398	0	1	2975 (53.41%)	206(45.78%)	807 (44.98%)	212 (45.40%)	744 (44.60%)	626 (53.56%)
Mcov123	.3694	.4827	0	1	2975 (53.41%)	206(45.78%)	807 (44.98%)	212 (45.40%)	744 (44.60%)	626 (53.56%)
Mcov124	.1371	.3440	0	1	2975 (53.41%)	206(45.78%)	807 (44.98%)	212 (45.40%)	744 (44.60%)	626 (53.56%)
Mcov125	.0712	.2573	0	1	2975 (53.41%)	206(45.78%)	807 (44.98%)	212 (45.40%)	744 (44.60%)	626 (53.56%)
Mcov13	.1227	.3282	0	1	5107 (91.68%)	53 (11.78%)	142 (7.92%)	33 (7.07%)	144 (8.63%)	91 (7.64%)
Mcov14	.9164	.2768	0	1	5108 (91.70%)	52 (11.56%)	142 (7.92%)	33 (7.07%)	144 (8.63%)	91 (7.64%)
Mcov15	.3913	.4880	0	1	5108 (91.70%)	52 (11.56%)	142 (7.92%)	33 (7.07%)	144 (8.63%)	91 (7.64%)
Mcov16	.8878	.3155	0	1	5109 (91.72%)	52 (11.56%)	141 (7.86%)	33 (7.07%)	144 (8.63%)	91 (7.64%)
Mcov17	.0411	.1986	0	1	5466 (98.13%)	43 (9.56%)	51 (2.84%)	6 (1.28%)	0 (0.00%)	4 (0.34%

4.2 Empirical Strategy

The broader dissertation will depend on a mixed-methods strategy to identify and understand the political factors that influence COVID-19 policy implementation; this article tests the conventional wisdom through ordinary least squares (OLS regression). The model specification follows:

$$y_i = \alpha + x_1\beta_1 + x_2\beta_2 + x_3\beta_3 + \epsilon$$

Where y_i is either the full public health score or the top 10 public health score, x_1 is the matrix of log GDPs per capita, x_2 is the number of health professionals (doctors and nurses), and x_3 is the vote share from either the PT or the PSL for each municipality for the previous 2018 presidential election.

As with any model-based inference, there is always the possibility of omitted variable bias and other assumptions, both implausible and numerous, which undermine their credibility. But for the purposes of the article and project, this is a good first step in understanding, testing, and exploring the nuances of conventional wisdom while testing possible alternative explanations for COVID-19 policy implementation.

5. Data Analysis and Discussion

5.1 Preliminary Results

To begin, I provide summary statistics of all COVID-19 measures. These statistics include the mean, median, and standard deviation divided into supporters and opponents of President Bolsonaro. I coded parties as "Aligned with Bolsonaro" if they were a part of the initial alliance when he was elected. These parties included: PSL (the Social Liberal Party), PATRI (Patriot Party), DEM (Democrats), PSC (Social Christian Party), NOVO (New Party), PSDB (Brazilian Social Democracy Party), MDB (Brazilian Democratic Movement), PP (Progressives), REPUB (Republicans), PL (Liberal Party), PSD (Social Democratic Party), and PTB (Brazilian Labor Party). Table 2 demonstrates a conservative estimate by excluding large-tent parties that tend to align themselves with either the left or right and utilize their representatives as power brokers in coalitional alliances.

From the table below, we notice two trends. First, we notice that parties aligned with Bolsonaro have several instances where they implemented COVID-19 measures at greater rates than those not aligned with Bolsonaro. Most notably, these measures included the adoption of social isolation measures (Mcov01), the adoption of some measure to regulation sanctions (e.g. fines, compulsory examination, etc.) in cases of non-compliance with social isolation rules (Mcov04), the adoption of mandatory mask use in public transportation, public spaces, and businesses (Mcov053), the acquisition of COVID-19 tests (Mcov058), distributed hygiene kits (Mcov061), distribution of food baskets to families enrolled and not enrolled in Bolsa Familia (Mcov 064 and 065), and the expansion of beds as a result of agreements with another municipality and state government (Mcov 122 and 123). The second trend is that, in most instances, the distance between those aligned and not aligned with Bolsonaro is small, meaning most municipalities acted in the same way.

Table 3 shows basic OLS bivariate regressions of the dependent variable, the full public health score and top 10 public health measures. For the full model, only the number of health professionals seems significant, while in the top 10 model, GDP, number of health professionals, and vote shares are significant. Interestingly, the effect of the log GDP per capita of a municipality switches signs between the full and top 10 dependent variables. This effect could be due to the missingness associated with the model, as discussed in the Data section. As expected, PSL and PT vote shares in both models seem to follow the conventional wisdom, pointing downwards if you're associated with the PSL and upwards if you're associated with the PT. The log of GDP for population and being a doctor mayor are also positive and significant for both indices. Tables 4 and 5 display the full multivariate models. The direction and significance of the effects hold for the number of health professionals and log of the population and are consistent for the PT and PSL parties, though in the latter case, it is only significant in the top 10 specification.

These preliminary results suggest that the conventional wisdom holds in most cases. To be sure, I created a series of scatter plots that mapped the economic and political variables against both versions of the public health scores. Figure 1 (in the Appendix) illustrates the number of medical professionals against the number of COVID-19 measures. In both instances, there is a positive linear trend with a few outliers. Figure 2 (in the Appendix) demonstrates the PSL and PT vote shares against the number of COVID-19 measures. Here, the variation in the number of health policies

against the share of the vote that either party won in the 2018 elections seems to suggest that, regardless of party affiliation, the number of policies implemented does not follow a clear linear progression. I extracted some of the outliers from Figure 2 and displayed them in Table 6. These scatter plots serve as the basis for case-study selection in the qualitative analysis. To assess the possibility of the two alternative hypotheses, medical legislators and population, I point to in-depth interviews conducted between February and April 2022 and February and November 2023[19] with health professionals, mayors, council members, health and education secretaries, religious figures, and police officers.

[19] This is an ongoing work, with interviews currently in progress. For the purposes of this article, I incorporated interviews up until May 2023.

Table 2: COVID-19 Measures Summary Statistics Based on Party Alignment (Conservative Estimate, Excluding Large Tent Parties)

Variable Name	Aligned with Bolsonaro					Not aligned with Bolsonaro					
	Min	Max	Mean	Median	SD	Min	Max	Mean	Median	SD	Diff. in Means
Mcov01	0	1	0.9874	1	0.1113	0	1	0.9839	1	0.1255	0.0035
Mcov02	0	1	0.5127	1	0.4999	0	1	0.5427	1	0.4983	−0.0300
Mcov03	0	1	0.7435	1	0.4367	0	1	0.8002	1	0.3999	−0.0567
Mcov0311	0	1	0.7543	1	0.4305	0	1	0.7728	1	0.4191	−0.0185
Mcov0312	0	1	0.8656	1	0.3411	0	1	0.8664	1	0.3403	−0.0008
Mcov0313	0	1	0.1860	0	0.3892	0	1	0.2040	0	0.4031	−0.0180
Mcov04	0	1	0.7850	1	0.4108	0	1	0.7104	1	0.4537	0.0746
Mcov051	0	1	0.7728	1	0.4190	0	1	0.7996	1	0.4004	−0.0268
Mcov052	0	1	0.7197	1	0.4491	0	1	0.7343	1	0.4418	−0.0146
Mcov053	0	1	0.9464	1	0.2251	0	1	0.9423	1	0.2330	0.0041
Mcov054	0	1	0.7748	1	0.4177	0	1	0.7804	1	0.4141	−0.0056
Mcov055	0	1	0.5883	1	0.4921	0	1	0.5973	1	0.4905	−0.0090
Mcov057	0	1	0.7784	1	0.4153	0	1	0.8008	1	0.3994	−0.0224
Mcov058	0	1	0.7871	1	0.4093	0	1	0.7855	1	0.4105	0.0016
Mcov0510	0	1	0.7218	1	0.4481	0	1	0.7490	1	0.4337	−0.0272
Mcov0511	0	1	0.1022	0	0.3029	0	1	0.1043	0	0.3058	−0.0021
Mcov0512	0	1	0.2156	0	0.4113	0	1	0.2202	0	0.4145	−0.0046
Mcov0513	0	1	0.1083	0	0.3108	0	1	0.1235	0	0.3291	−0.0152
Mcov061	0	1	0.5003	1	0.5000	0	1	0.4942	0	0.5001	0.0061
Mcov062	0	1	0.3065	0	0.4611	0	1	0.3092	0	0.4623	−0.0027
Mcov063	0	1	0.7362	1	0.4407	0	1	0.7394	1	0.4390	−0.0032
Mcov064	0	1	0.6732	1	0.4690	0	1	0.6709	1	0.4700	0.0023
Mcov065	0	1	0.5603	1	0.4964	0	1	0.5486	1	0.4977	0.0117
Mcov066	0	1	0.1323	0	0.3389	0	1	0.1517	0	0.3588	−0.0194
Mcov067	0	1	0.1213	0	0.3266	0	1	0.1325	0	0.3391	−0.0112
Mcov068	0	1	0.0962	0	0.2950	0	1	0.1069	0	0.3091	−0.0107
Mcov069	0	1	0.2138	0	0.4100	0	1	0.2144	0	0.4105	−0.0006
Mcov0620	0	1	0.3277	0	0.4694	0	1	0.3886	0	0.4875	−0.0609
Mcov08	0	1	0.5625	1	0.4961	0	1	0.5634	1	0.4961	−0.0009
Mcov11	0	1	0.5785	1	0.4938	0	1	0.5920	1	0.4916	−0.0135
Mcov121	0	1	0.6236	1	0.4845	0	1	0.6497	1	0.4773	−0.0261
Mcov122	0	1	0.2681	0	0.4431	0	1	0.2476	0	0.4319	0.0205
Mcov123	0	1	0.3725	0	0.4836	0	1	0.3617	0	0.4807	0.0108
Mcov124	0	1	0.1324	0	0.3390	0	1	0.1486	0	0.3559	−0.0162
Mcov125	0	1	0.0721	0	0.2587	0	1	0.0691	0	0.2538	0.0003
Mcov13	0	1	0.1161	0	0.3204	0	1	0.1392	0	0.3463	−0.0231
Mcov17	0	1	0.0381	0	0.1915	0	1	0.0486	0	0.2152	−0.0105
Mcov0610	0	1	0.5836	1	0.4930	0	1	0.5550	1	0.4971	0.0286

Mcov0611	0	1	0.5838	1	0.4929	0	1	0.5851	1	0.4928	−0.0013
Mcov0612	0	1	0.1062	0	0.3082	0	1	0.1152	0	0.3194	−0.0090
Mcov0613	0	1	0.3270	0	0.4691	0	1	0.3316	0	0.4709	−0.0046
Mcov0614	0	1	0.3451	0	0.4754	0	1	0.3277	0	0.4695	0.0174
Mcov0615	0	1	0.6524	1	0.4762	0	1	0.6421	1	0.4795	0.0103
Mcov0616	0	1	0.3918	0	0.4882	0	1	0.4033	0	0.4907	−0.0115
Mcov0617	0	1	0.2640	0	0.4408	0	1	0.2573	0	0.4373	0.0067
Mcov0618	0	1	0.5774	1	0.4940	0	1	0.5915	1	0.4917	−0.0141
Mcov0619	0	1	0.4335	0	0.4956	0	1	0.4577	0	0.4983	−0.0242

Highlighted rows indicate instances where the mean value of a particular COVID measure is greater for municipalities led by parties aligned with Bolsonaro versus municipalities whose parties are not aligned with Bolsonaro.

Table 3: OLS Bivariate Regressions - Public Health Scores by Political and Economic Measures

	Public Health Score (Full)						Public Health Score Index (Top 10)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log GDP per capita (2017)	0.116						−0.263***					
	(0.131)						(0.036)					
Number of health professionals		0.001***						0.0001***				
		(0.0001)						(0.00002)				
PSL Total Vote Share (2018)			−0.004						−0.020***			
			(0.008)						(0.002)			
PT Total Vote Share (2018)				0.009						0.021***		
				(0.008)						(0.002)		
Log Pop.					2.443***						0.344***	
					(0.067)						(0.020)	
Doc Mayor						1.596***						0.228**
						(0.389)						(0.106)
Constant	19.796***	20.849***	21.023***	20.693***	−2.220***	20.840***	9.059***	6.482***	6.965***	5.954***	3.202***	6.480***
	(1.276)	(0.088)	(0.207)	(0.228)	(0.637)	(0.091)	(0.349)	(0.025)	(0.057)	(0.062)	(0.194)	(0.025)
N	5,467	5,467	5,467	5,467	5,467	5,467	5,034	5,034	5,034	5,034	5,034	5,034

*p < .1; **p < .05; ***p < .01

Table 4: OLS Full Regressions – Public Health Scores by Political and Economic Measures (PSL Included)

	Public Health Score (Full)	Public Health Score Index (Top 10)
	(1)	(2)
Log GDP per capita (2017)	0.053	−0.106**
	(0.167)	(0.049)
Number of health professionals	−0.0001**	−0.00002
	(0.0001)	(0.00002)
PSL Total Vote Share (2018)	−0.028***	−0.019***
	(0.010)	(0.003)
Log Pop.	2.499***	0.371***
	(0.071)	(0.021)
Doc Mayor	0.566	0.039
	(0.351)	(0.103)
Constant	−2.628*	4.421***
	(1.594)	(0.471)
N	5,467	5,034

*p < .1; **p < .05; ***p < .01

Table 5: OLS Full Regressions - Public Health Scores by Political and Economic Measures (PT Included)

	Public Health Score (Full)	Public Health Score Index (Top 10)
	(1)	(2)
Log GDP per capita (2017)	0.061	−0.105**
	(0.165)	(0.049)
Number of health professionals	−0.0001**	−0.00001
	(0.0001)	(0.00002)
PT Total Vote Share (2018)	0.029***	0.019***
	(0.010)	(0.003)
Log Pop.	2.495***	0.369***
	(0.070)	(0.021)
Doc Mayor	0.563	0.037
	(0.351)	(0.103)
Constant	−4.085**	3.507***
	(1.905)	(0.563)
N	5,467	5,034

*p < .1; **p < .05; ***p < .01

5.2 Understanding Pandemic Response from a Municipal Level

5.2.1 Case Study Selection Rationale

To better understand the quantitative results, I proceeded to select a series of emblematic cases that could highlight the political motivations for the implementation, or lack thereof, of COVID-19 policies in Brazil. The responses to the pandemic varied amongst the federal countries in Latin America. In Mexico, President Andres Manuel Lopez Obrador (AMLO) refused to mount a response to the pandemic (Bennouna et al., 2021; Dunn & Laterzo, 2021; Knaul et al., 2021). In Venezuela, a combination of economic issues and medical institutional collapse prohibited the country from mounting an effective response (Burki, 2020). Finally, Argentina's proactive response left little room for subnational governments to deviate from the federal (Abers et al., 2021; Giraudy et al., 2020).

I restrict case study selection from February 2020, when the Brazilian government detected the first COVID-19 cases, to November 2020, when municipal elections were held, and it became clear that a vaccine was going to be introduced. I implemented these restrictions for several reasons. First, given local elections and the possibility of municipal regime change, I wanted to ensure a continuation of actors during the period of analysis. In some cases, mayors were re-elected to second terms, while others either termed out or were not re-elected. Second, the lack of a cure or treatment for COVID-19, prior to the development and distribution of a vaccine, increased pressure on local governments to act through non-pharmaceutical interventions. Third, MUNIC's pandemic-related survey questions were limited to 2020 and captured the initial moments of the pandemic in Brazil.

When selecting cases, I controlled for the potential impact of different state government policies by choosing states whose governors varied across political parties and ideologies (at the time of the study). Those were centrist, João Doria (São Paulo-PSDB), center-left, Rui Costa (Bahia- PT), and center-right, Romeu Zema (Minas Gerais-NOVO/PL). The fact that we see in-state variation despite state protocols against COVID-19 suggests that states mandated a minimum, not a maximum, of behaviors and speaks to the relative autonomy of municipalities. I selected municipalities where we would not expect behavior typical of conventional wisdom. In other words, some municipalities had right-wing mayors who implemented various policies, while other municipalities had left-wing mayors who implemented fewer policies. Additionally, I accounted for variations in population size and whether the municipality had a mayor with a medical background using data from the TSE website.

Given that population size correlates with health state capacity, I chose cities at various population points to account for various health state capacities, in addition to potential arguments regarding citizens' abilities to make claims on public officials based on population size (see Post & Kuipers, 2022).

According to Post, citizens may have different sets of priorities and interests in larger cities compared to those in smaller cities. Additionally, a municipality's opportunities to substitute or augment services may be limited based on population size. The complete set of selected cases are in Table 6.[20]

Table 6: Case Study Selection and Attributes

Case	Party Ideological Leanings	Population Size	Public Health Score	Location	Medical Professional
1	PL (Liberal Party) - Right	8,566	41	Pratápolis, MG	No
2	PT (Workers' Party)- Left	8,663	17	Capitólio, MG	Yes
3	PV (Green Party) - Left	194,390	15	Santa Barbara D'Oeste, SP	No
4	DEM (Democrats) - Right	687,572	41	Sorocaba, SP	No
5	PSL (Social Liberal Party) - Right	13,164	38	Nordestina, BA	Yes
6	PSB (Brazilian Socialist Party) - Left	156,126	12	Jequié, BA	Yes

5.2.2 Initial Interviews from São Paulo and Minas Gerais

Through an initial series of conversations with municipal and regional officials in São Paulo and Minas Gerais, evidence emerged supporting the conventional wisdom of pandemic response and offering alternative explanations for divergence. In some cases, their responses aligned with our current understanding of political needs and responses during a pandemic: the need for resources (e.g., personal protection equipment, testing kits, testing capacity, personnel), the lack of leadership and technical guidance at the federal level, and a general environment where citizens questioned scientific expertise. In the words of one of my interviewees, the federal government turned many municipalities into "orphans."[21] The proceeding section interrogates each hypothesis relative to the selected case studies where interviews have been completed and processed.

[20] Due to the ongoing nature of this work, the qualitative evidence is limited to initial interviews around the metropolitan area of São Paulo and rural regions of Minas Gerais. Future iterations will have complete interviews from regions in São Paulo and Bahia.

[21] Interview with the assistant health secretary of Mauá. Conducted on April 6, 2022.

5.2.3 Political Alignment at the Local Level

Recent literature suggests that pandemic policy implementation followed party lines in the United States and Europe. In Brazil, scholars argue that, at the federal and state levels, the President and governors enacted policies that, more or less, coincided with their ideological tendencies. Bolsonaro, as a right-wing leader, focused more on the potential impacts of pandemic policies on Brazil's economy. Meanwhile, many governors, particularly from the Northeast, which encompassed left-wing parties and ideologies, prioritized the preservation of the life and health of their citizens. Locally, mayors and councilmembers differed in their political and ideological leanings and decision-making. Preliminary interviews suggest mayors and council members were not anchored to their parties, compared to state-level politicians, when enacting COVID-19 policies. Mayors had some discretion to enact policies, provided they did not violate state or federal decrees. But even then, some cities deviated from federal and state decrees, as long as they could legally justify their actions with state authorities or avoided prosecution from state authorities. Council members, however, could only voice their disagreements with the local executive and had very little veto power during the pandemic due to the state of emergency.

When interviewing council members, one of the biggest questions was whether they had any authority or power to resist or veto pandemic-related municipal executive decrees. In all instances, council members stated that mayors had unilateral power to enact pandemic-related measures. Mayors had this power because the Supreme Federal Court had ruled that state and local officials had the right to intervene to preserve life during the pandemic. Governors provided some measures, but not all. Governors mandated school closures, mask mandates, and social distancing, but the decision to erect health barriers, establish triage centers and field hospitals, and regulate certain sectors of the local economy was entirely under the preview of the mayor. In other words, governors provided a minimum "floor" for each state to operate, but mayors decided whether to expand or prolong these policies. This is not to say that council members did not disagree or did not have some role in their implementation.

All council member interviewees expressed some sort of disagreement with several policies. There was room for discussion, but ultimately, the mayor had the final say. For example, one interviewee said:

> It was a difficult experience dealing with something that was unknown and terrified everyone. My responsibility was great, being at the forefront of the legislature [as Council President] and monitoring all the decisions taken by federal and state decrees, regulated by the municipal executive through the municipal committee, which played a fundamental role when it came to taking the necessary measures and actions during the pandemic.[22]

Additionally, both the Pratápolis and Capitólio councils provided details regarding fines and punishments. For example, the Capitólio city council created the following fines for violating the municipal decrees: for commercial enterprises and service providers (R$300 or $60), house and ranch rentals with the purposes of tourism (R$5000 or $1000 for both the landlord and tenant), boat or 4x4 tours (R$ or $500 for both the landlord and driver), and anyone who circumvents, hinders, prevents, or acts against the implementation of the regulatory decrees (R$200 or $40).[23] Therefore, while they could not veto executive decrees, council members did decide the fines for violating them. However, the question is still whether political alignment influenced the decision-making process?

One possible reason why partisanship may not have influenced pandemic policymaking may have to do with city size. As one interviewee noted:

> There is no incentive to being partisan in a small city. In the city of São Paulo it's different; there, being the mayor of a major city can allow you to run for governor or even President. Here [referring to Franco de Rocha], maybe you can become a deputy or a senator, but it's never a guarantee.[24]

The mayors of Pratápolis and Capitólio echoed these sentiments. From their perspectives, people who are poised to run for higher office tend to think about the next step on the political ladder. When I asked the mayor of Pratápolis if the municipal elections of 2020 influenced her decision to enact her decrees, she replied, "No. Enacting COVID-19 policies was not very popular. I listened to the committee and did what I thought was right in this situation, which was to protect the citizens of Pratápolis."[25] While not popular, citizens of the town respected her decisiveness and decision-

[22] Interview with council member and former Council President. Conducted virtually April 29, 2023. In reference to the COVID-19 committee, while the council president was not a part of the committee, he did receive their decisions and attempted to communicate their rationale to the public.
[23] Ordinary Law 2054, April 29, 2020.
[24] Interview with the past mayor of Franco de Rocha. Conducted April 15, 2022.
[25] Based on interview with the mayor of Pratápolis. Conducted April 11, 2023.

making. As opposition councilmembers made clear, they gave the mayor the benefit of the doubt, given the unknown nature of the pandemic and its potential effects on the city's health.[26] In future conversations with local leaders of larger cities, we may see more complex dynamics, especially if there were any protests from teaching unions or medical professionals.

5.2.4 Health Capacity at the Local Level

Ensuring sufficient health capacity is essential to addressing and managing a pandemic. Municipalities were faced with the task of ensuring primary care services, such as triage and diagnostic services, for their citizens. When a patient's COVID-19 test came back positive, local community health agents from a city's UBS health clinics ensured citizens stayed home and that their medical and everyday needs were met through daily telephone calls. Yet, health capacity varied in S˜ao Paulo and Minas Gerais. While many municipalities relied on state testing agencies to run COVID-19 diagnostic tests, which took at least two weeks to provide a diagnosis, other cities, like Araraquara, used local resources to circumvent the state altogether. As the Municipal Health Secretary stated:

> It was difficult. One of the big issues we had was COVID-19 testing. We tried using the state testing site, but, as you can imagine, every municipality needed their tests analyzed. We were waiting up to two weeks for the results. Instead, we decided to use our own resources and university laboratories to test samples.[27]

Similarly, in Pratápolis and Capitólio, health and political officials expressed having sufficient health capacity during the pandemic, albeit with some delays. Two themes could explain why a municipality's health capacity would not inherently impact COVID-19 policy. First, the universal nature of the SUS system provided a basic infrastructure for a primary pandemic response. This basic infrastructure offered a mechanism to prevent an increase in cases but also a plan in the event of severe cases. Second, in the absence of essential equipment, such as diagnostic testing, municipalities were able to adapt by re-purposing pre-existing resources, such as universities. When asked about the process of reacting to the pandemic, the Secretary stated:

> We had to put together a committee of not only doctors and epidemiologists but also public health experts. Fundamentally, we had a different approach to that of the state government, which focused heavily on the medicine, but not on the people.[28]

[26] Based on conversation with a Pratápolis council member. Conducted April 26, 2023.
[27] Interview with Municipal Health Secretary of Araraquara. Conducted March 10, 2022.
[28] Ibid.

When asked to clarify about why public health experts needed to be included in the city's pandemic plans, she responded:

> Public health experts know people best; they are the ones who interact with our citizens on a daily basis. They see people and make sure they follow through with their medication and generally have a greater presence in the community. As healthcare professionals, we only see patients when they are sick and come to us. Or in my case, when I go around and make visits to the UBS clinics.[29]

In a similar vein, a community health agent in Pratápolis noted it was essential to have community health agents engage with the community. From her perspective, the pandemic was another opportunity to engage with the most vulnerable – the elderly, newborns, and those with co-morbidities – and ensure that those who tested positive for COVID-19 did not leave their homes.[30] In smaller cities, community health agents divided the municipalities into zones, with each agent responsible for a set of families and their primary medical care. Health agents follow the principles of the Family Health Strategy, a set of organizing principles promoted by the federal government to ensure primary care for all Brazilians. Families enrolled in social programs, like Bolsa Familia, received additional attention from health agents given eligibility requirements. Community health agents ask families to bring their children to the closest health clinic to answer a series of basic questions regarding the child's health and any medical concerns. Community health agents may conduct house calls and must report any concerns they observe, including child malnutrition, mistreatment, or assault. Localized attention proved crucial during the pandemic.

Community health agents staffed health barriers in Pratápolis and Capitólio and worked with city officials to address the needs of individuals who tested positive for COVID-19. At the health barriers in Pratápolis and Capitólio, community health agents interviewed motorists on their purpose for visiting the city, whether they had any COVID-19 symptoms, and had their temperatures taken. Prat´apolis had tighter control of health barriers; they only allowed residents and essential delivery drivers to enter the city. And while they initially did the same, Capitólio had difficulty controlling the flow of outsiders into the city.[31] The main difficulties in erecting health barriers in both cities were the availability of alternative entrances and controlling inflows into the city.

[29] Ibid.
[30] Based on conversation with a community health agent. Conducted on April 26, 2023.
[31] Based on interview with deputy health secretary. Conducted May 15, 2023.

In Pratápolis, interviewees mentioned that people who wanted to bypass the health barriers would take unpaved, rural paths into the city. At a certain point, health barriers became a point of ridicule for the municipality, as many residents circumvented them altogether.[32] Capitólio faced the same difficulty, in addition to two other problems. Given the geographical layout of the city, there are five entrances, of which two are far from the city center and one requires the use of a ferry to transport cars from the nearby city of Guapé into Capitólio.[33] In addition to these entrances, the city faced two other problems. First, many wealthy, seasonal residents fled metropolitan centers like Belo Horizonte, Rio de Janeiro, and São Paulo to avoid agglomerations and the spread of COVID-19. These individuals argued that they were residents of Capitólio, despite only living in the city one or two months of the year. Two, many non-residents used an oft cited, albeit misunderstood, right in the Brazilian Constitution (Title II, Chapter I, Article V, Item XV) guaranteeing freedom of movement with the country during peacetime. However, when Brazil declared COVID-19 a national pandemic, authorities curtailed individual rights.

Community health agents in both case studies delivered food, medicine, and PPE, such as masks and sanitizer, to the most vulnerable. Because community health agents have a deep understanding of families' needs, municipalities tasked agents to communicate municipal decrees and ensure positive COVID-19 patients stayed home during isolation. However, as one of my interviewees mentioned, some positive patients refused to accept they had COVID-19 and left their homes. In those cases, community health agents would search for patients and talk to them about the risks of wandering in public.[34] When resources were limited, municipalities depended on each other for resources.

Several interviews highlighted the need to transport citizens out of their cities into larger cities when they needed an intensive care unit bed or respirator. Smaller cities like Pratápolis and Capitólio are served by medium and larger cities such as São Sebastião de Paraíso, Piumhi, and Passos that have greater medical capacity, such as intensive care unit beds, advanced medical treatment (such as chemotherapy), and specialized healthcare providers. For example, a Pratápolis patient who needed an intensive care unit bed due to COVID-19 would be directed either to São Sebastião de Paraíso or Passos. In Capitólio, they would be directed to Piumhi or Passos. Because larger municipalities were

[32] Based on interviews with a local council member and city attorney. Conducted April 26, 2023, and April 27, 2023, respectively.
[33] Based on interview with a local council member. Conducted May 3rd, 2023.
[34] Interview with community health agent. Conducted April 26, 2023.

bound by pre-existing agreements to receive and treat patients, they could not refuse their transfers unless they lacked capacity. However, there's an inherent problem with this system. Because smaller cities feed into medium and larger cities, there's an increased possibility that a receiving city like Passos could be inundated with patients from the entire region. In this scenario, medical providers, based on the severity of each patient's symptoms, would decide who received the bed. Therefore, smaller cities like Pratápolis and Capitólio did not have to provide ICU beds in their jurisdictions, but they did have to be mindful of each receiving city's capacity and whether patients would have to wait for treatment.[35]

5.2.5 Policymaking as a Medical Professional

Having medical mayors can influence the implementation of COVID-19 policy. Because medical professionals have firsthand experience of illness and death, they understand the risks and consequences associated with inaction during a pandemic. Second, medical professionals are socialized to a particular set of ethics, such as the Hippocratic Oath. Finally, many medical professionals work in hospitals and clinics and have intimate knowledge of a medical establishment's capabilities, particularly in small cities, where there might be only one hospital and a few clinics. Through conversations with local officials and community members in Pratápolis and Capitólio, there is reason to believe that both mayors were indirectly and directly influenced by the medical profession. This influence guided their decisions to take proactive approaches to the pandemic, albeit with varying degrees of success.

First, while the mayor of Pratápolis is not a medical professional, she spent thirty years working as a support member in the municipal health department. Her responsibilities mainly involved organizing and managing the city's health clinics and engaging the community through medical campaigns. Some of these medical campaigns included increasing flu vaccine uptake, education around dengue fever, and health promotion campaigns. Her presence within the community would later help bolster her credentials when she ran for mayor. Additionally, working in healthcare gave the mayor insights into the city's health capacity. For example, Pratápolis had its own respirator, which was purchased prior to the pandemic. Though the municipality intended to use the respirator for individuals who needed help breathing due to pre-existing respiratory conditions, COVID-19 increased the salience of the

[35] https://www.em.com.br/app/noticia/gerais/2020/05/12/interna_gerais,1146406/como-o-coronavirus-preocupa-cidades-polo-de-minas-gerais.shtml

purchase. The mayor shared how the state of Minas Gerais attempted to source all respirators into Belo Horizonte and other large regional cities, but she refused to do so, citing that the respirator was purchased, not for COVID-19, but for other general respiratory diseases, using general funds from the municipal budget.[36] The mayor's experience suggests that even being exposed to the health sector could increase the likelihood of proactively addressing the COVID-19 pandemic.

Similarly, in the case of Capitólio, the city depended on the second-term mayor, whose medical experience as a radiologist proved pivotal to facing the pandemic. The mayor's former social assistance secretary shared that, one week prior to the first case of COVID-19 in Brazil, the mayor gathered his Cabinet and shared his concern about the disease arriving in Brazil and possibly even Capitólio. The secretary remembered because, as the oldest of the Cabinet members, he specifically mentioned the potential risk factors for older citizens.[37] The mayor did not take any risks and swiftly enacted lockdowns for all commercial and tourist activities and erected health barriers at all city entrances.

[36] Based on interview with Mayor of Pratápolis. Conducted on April 11, 2023.

[37] Based on an interview with the former social assistance secretary of Capitólio. Conducted May 17, 2023.

Figure 2: COVID-19 Health Barrier in Capitólio

As shown in Figure 2, the city installed health barriers throughout the city. At each barrier, drivers were instructed to stop and answer questions by health officials. These questions included the purpose of travel, any symptoms related to COVID-19, and whether occupants of the vehicle resided within the city. Because local leaders wanted to avoid an influx of travelers coming from outside the city, they required proof of residence as displayed on government identification or utility bills. Afterwards, city officials would administer a temperature check and permit the driver to enter the city. Military police were installed at all health barriers to ensure compliance with health norms and regulations. Additionally, the mayor required the use of masks and disinfection of all clinics and stores that were permitted to stay open, such as pharmacies, grocery stores, restaurants, banks, beauty salons, and gyms. The opening of non-essential services with regulations occurred one month (April 27, 2020)[38] after he announced a complete lockdown on March 20, 2020.[39] The notable exception was the tourism sector, which consisted of summer homes, commercial nautical and 4x4 tours around the

[38] Municipal decree 209.
[39] Municipal decrees 175,176, 177, 178.

lake and canyon areas, and entrance to several waterfalls around the area. The mayor justified the continued suspension of tourist activities based on a perceived risk of tourists coming from major metropolitan areas like Belo Horizonte, Rio de Janeiro, and São Paulo and spreading the virus.

However, the mayor faced major backlash from the commercial and tourist associations, who resisted the continued closures of nautical and land tours, especially when other non-essential services were being re-opened.[40] While the mayor eventually allowed nautical tours to re-open, it was for non-commercial tours with direct family members and on weekends.[41] Sector stratification in policy caused major resentment in the nautical and tourist industries, and many proprietors pushed back against their unequal treatment. They organized under the local commercial association whose president met with the mayor and convinced him to open up the sector with restrictions.[42] The municipality eventually permitted their activities in June.[43]

Even though the mayor, as a doctor, wanted to take drastic measures, there was significant resistance amongst local businesses, forcing the mayor to rethink his pandemic strategy.

5.2.6 Diffusion at the Local Level

As previously mentioned, there is reason to believe that diffusion, based on learning, emulation, and coercion, could have influenced municipal policy responses to the pandemic. When speaking to local officials in São Paulo and Minas Gerais, two possible mechanisms based on diffusion became apparent: information and coordination. These mechanisms manifested in local and regional entities

[40] Municipal decree 209, April 27, 2020.
[41] Municipal decree 223, May 11, 2020.
[42] Based on conversation with the former president of the Association of Commercial, Industrial, and Agriculture businesses (ACIAC). Conducted on May 2, 2023.
[43] Municipal decree 254, June 19, 2020.

such as municipal COVID-19 committees, regional health groups (COSEMS)[44] and municipal associations (AMEG).[45] Yet, as I will argue, the presence of these associations is not sufficient to ensure diffusion across municipalities.

Information, or the sharing of knowledge across different municipalities, was important to addressing the pandemic. Many municipalities lacked the appropriate and essential information on how to best address the pandemic, and they relied on local and regional entities. In most cases, municipalities created their own COVID-19 committees filled with medical professionals, judicial representatives, council members, religious officials, and municipal cabinet secretaries.[46] The COVID-19 committees served two purposes. First, they crowd-sourced information from politicians, local experts, and the community. Everyone had an opportunity to voice their opinions and share concerns. Community members, such as commercial retailers and truck drivers, expressed displeasure against store closures and health barriers blocking city entrances. Commercial retailers lamented the loss of income through store closures, even though some municipalities offered direct and indirect financial support.[47] Delivery drivers took issue with health barriers enacted throughout the cities as they increased waiting times and interfered with other deliveries in the region.[48] Information shared in the committees often referred to what was taking place in other cities.

[44] COSEMS, or the National Council of Municipal Health Secretaries, São Paulo was founded on March 19, 1988, to bring together all Municipal Health Secretaries of the State of São Paulo, with the objective of defending the interests of the 645 municipalities in the state through a variety of public health forums, including the Bipartite Intermanagers Commission (CIB) and in the State Health Council (CES). With the publication of Federal Law No. 12.466 on August 24, 2011, COSEMS became formally and legally recognized as part of a group of state associations that represent municipal entities, at the state-level, to deal with health-related matters. São Paulo COSEMS divides the state into regions and provides a technical liaison that supports municipalities by answering specific questions about a disease or guiding them through the process of obtaining resources, such as additional beds, personal protection equipment, and municipal reimbursements. Every year at their annual meeting, Municipal Health Secretaries have the option of electing regional managers for their respective regions. These managers play a fundamental role in regionalizing healthcare in the state of São Paulo, by working together with other regional managers in the Regional Intermanagement Commissions (CIR) to voice regional municipal problems and develop proposals for their confrontation. While COSEMS represents all municipalities, smaller and rural municipalities need the most help, given that large municipalities can count on greater state capacity to hire professionals, bureaucrats, and technical experts, and usually have greater access to private entities should they need additional capacity.

[45] AMEG, or the Association of Municipalities of the Microregion of the Middle Rio Grande, is an inter-municipal cooperation entity, formed at end of the 1970s and early 1980s, when the national government, aiming to decentralize power, subdivided territories into micro regions, taking into ac- count regional identity and shared road infrastructure. The principle aim of the civil entity emerged as an alternative to isolated actions of municipal entities in the face of shared problems and common interests.

[46] Based on interviews with a municipal chief of staff and mayor on April 5 and 11, 2023, respectively.

[47] Based on interviews with municipal council members in Pratápolis and Capitólio on April 12, May 15, May 16, 2023.

[48] Ibid.

For example, Evangelical practitioners in Pratápolis challenged the municipality on the closure of their churches based on information that a next-door city, Itaú de Minas, allowed practitioners access to churches with restrictions.[49] Evangelical churchgoers cited the fact that because both Itaú de Minas and Prat´apolis both lie in the same judicial jurisdiction, it did not make sense for them to have different policies regulating religious practices. Local officials were able to learn about what was occurring in other cities from individuals who traveled between cities due to their occupations. Officials used COVID-19 municipal committees to not only gain information on policy implementation in other cities but also build trust and transparency amongst their communities.

The second purpose of the COVID-19 committees was to allow mayors to rhetorically justify their decisions on policy implementation based on collective decision-making rather than unilateral action. While mayors had the right to enact unilateral COVID-19 policies, given the state of emergency, the creation and use of COVID-19 committees assured residents that the city was not taking unilateral action. In Pratápolis, the mayor often referred to the fact that the city was blessed to have a capable team of experts and that any decision made was done in a collective manner.[50] On the other hand, some interviewees voiced concern that the mayor used the COVID-19 committees not to gain feedback but to dictate what the mayor's office was going to implement next and justify their reasons.[51] However, outside of local entities, municipalities depended on regional health groups and associations for information.

Regional health groups supplemented information from COVID-19 committees. In the absence of guidance from the Ministry of Health, many municipalities turned to regional entities to seek technical expertise and guidance. In the state of São Paulo, many poor and rural municipalities used the COSEMS network to guide their COVID-19 response.[52] In theory, the federal government would have created federal guidelines for state and municipal governments to adapt to their individual circumstances, but this did not happen. As an interviewee noted:

[49] Based on interviews with local council member and public health agent, both of whom are practicing Evangelicals on April 26, 2023.
[50] Based on collective group interview with a local mayor, the mayor's chief of staff, the health and social assistance secretaries, and director of the city hospital on April 11, 2023.
[51] Based on interviews with city council members and enforcement officials on April 24, April 26, and April 19, 2023, respectively.
[52] Based on interview with the technical and coordination advisor to COSEMS on March 4, 2022.

> The Ministry of Health had a technical emptying – technical references, technical professionals – they were being emptied. We had references in this Ministry that also ceased to exist. In the face of this denialism, there was an absence of technical coordination of this Ministry, which is one of its roles: precisely in some policies, it has the role of coordination to formulate policies to support states and municipalities, and it was completely absent.[53]

In these situations, the state government, along with the state Secretary of Health, would take over as the proceeding authority. But instead of guiding municipalities, some states, like in the case of São Paulo, centralized decision-making and did not invest in pre-existing public health institutions. In response to the question, "What were the biggest obstacles to public health implementation in the state of São Paulo?" another interviewee stated, "In the state of São Paulo, it largely centralized decisions in the governor's office, meaning technical teams with recognized experience could not fully exercise their work."[54] Instead, the regional network focuses on three areas: planning, management, and support. The municipality does the planning, and COSEMS supports and advocates for the municipality by engaging the state government. During the pandemic, COSEMS sent information to municipalities to increase public health guidance concerning best COVID-19 practices. The regional network in São Paulo has 31 technical workers who are assigned health regions and municipal health managers; they are tasked with supporting municipalities and health secretaries who need help. In this way, regional workers can share best practices and the experiences of better-equipped municipalities with ones who need additional support. For example, in response to the question, "In your experience, do all municipalities participate equally in COSEMS, or did you think some need more support than others during the pandemic?" one of the technical advisors responded:

> There is a lot of difference between municipalities – there are municipalities that do not need the support of COSEMS in the sense that they have strong management and a strong team. The needs of municipalities are very different; they are very heterogeneous. There are municipalities that have more decision-making and operationalization capability and have political power, while others are more fragile.[55]

[53] Ibid.
[54] Based on interview with a technical advisor to the council of municipal secretaries of São Paulo on March 25, 2023.
[55] Based on interview with a technical advisor to the council of municipal secretaries of São Paulo on March 25, 2023.

Regional groups, like COSEMS, offer a mechanism for the diffusion of information across municipalities. By providing best practices within and across municipalities, mayors can learn from each other vis-a-vis a regional entity. However, while COSEMS came up frequently in São Paulo, the equivalent in Minas Gerais did not appear. Rather, a different organization, AMEG, served as the regional mechanism for sharing information and coordination.

In conversations with mayors in São Paulo and Minas Gerais, the presence of informal and formal inter-municipal organizations helped these local executives to share information and coordinate policy responses. However, neither the presence of an inter-municipal organization nor subsequent conversations guaranteed similar policies to take hold. In the case of Franco de Rocha in São Paulo, the mayor at the start of the pandemic worked with nearby municipalities, including Caieiras, Francisco Morato, Mairiporã, and Cajamar. These municipalities worked together to solve problems, regardless of their political parties. Of particular interest was the current mayor's association with the Brazilian Labour Party (PTB), which recently showed support for President Bolsonaro's campaign at the national level. When asked about this, the current mayor of Franco de Rocha stated:

> I was elected by the PTB [Brazilian Labour Party], but recently, I went to the PSDB [Brazilian Social Democracy Party]. In medium and small municipalities, the importance of a political party is less because the population chooses the candidate for their proposals, their conduct in their personal and professional life, and what they have done during their political careers. It's more of a personal vote than a partisan one. After the election, the elected council members also, regardless of parties, ally themselves with the municipal government, aiming to adopt measures in the interest of the population. There is no great opposition. During the pandemic, there was no problem approving laws. Council members always met the requests of the Executive.[56]

Similar sentiments were expressed by the Pratápolis mayor. As shown in Table 6, Pratápolis, despite having a right-wing mayor who shared the same party as Bolsonaro and expressed support for the former President, implemented the largest number of policies within the micro-region of Middle Rio Grande. Despite this similarity, the Pratápolis mayor argued that the dynamics of the federal government did not reflect the realities of everyday citizens or the challenges faced by the city.[57] As such, the coordination within and across municipalities was essential, especially if they agreed on

[56] Interview with the current mayor of Franco de Rocha. Conducted April 14, 2022.
[57] Based on interview with the mayor. Conducted April 11, 2023.

fundamental facts about the pandemic. As the past health secretary and current deputy mayor of Franco de Rocha notes:

> Despite our affiliation with different parties, we have a convergence of ideas that have allowed our municipal alliance. Convergence amongst the parties was fundamental, as decisions were made based on science, unlike the conduct (and even the lack of conduct) of the federal government.[58]

However, there was a key difference between São Paulo and Minas Gerais. Whereas the regional coordination amongst São Paulo was informal, the Minas Gerais mayors interacted in a more formal structure. They came together, via AMEG, to discuss information and COVID-19 policy implementation. However, while the interactions in São Paulo led to similar policies being implemented, the opposite occurred in Minas Gerais. As the mayor of Pratápolis shared, she received criticism from her colleagues in nearby cities for taking a "heavy-handed" approach to the pandemic. In one instance, a mayor of a nearby city noted that citizens of Pratápolis were flocking to his city to circumvent harsh lockdowns that prevented people from engaging in non-essential activities.[59] While organizations like AMEG and other informal groups can help alleviate collective action problems, they are insufficient to explain the convergence or divergence of COVID-19 policy implementation.

6. Conclusion

COVID-19 has caused millions of cases, deaths, and hospitalizations, tested the responsiveness and competence of many countries, disrupted the social and economic activities of everyday life, and challenged the social welfare state in many countries around the world, especially in Latin America. Despite its historical experience with pandemics and state health capacity, the Brazilian government was not equipped to handle COVID-19. The Bolsonaro administration only exacerbated these challenges by denying the severity of the problem and only focusing on Brazil's economy, contrary to the recommendations of the World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), the Pan American Health Organization (PAHO), and numerous state and municipal health professionals in Brazil.

[58] Interview with the past municipal health secretary, now acting deputy mayor of Franco de Rocha. Conducted April 14, 2022.
[59] Based on interview with the mayor. Conducted April 11, 2023.

In the absence of the federal government, the Supreme Federal Court granted states and municipalities historical autonomy to implement social measures to stop the spread of diseases and limit the number of deaths in their territory. These types of policies varied in their number and intensity. In some cases, municipalities were able to implement complete lockdowns, as in the case of Araraquara in São Paulo. In other cases, such as that of Mauá, the government had to strike a balance between following best health practices and allowing workers to earn an income in the absence of a sufficient social safety net. Preliminary findings suggest that prior municipal conditions influenced the ability of municipalities to implement a series of measures, e.g., lockdowns, social distancing, sanitary barriers, etc. In fact, the daily health of municipalities, from the affluence of the municipality, state capacity, and preexisting social councils, suggests a more complex and dynamic relationship beyond partisan divides.

There are two possible alternative explanations: population and medical mayors. First, cities with larger populations may benefit from economies of scale with interventions such as field hospitals, which would not make financial sense in smaller cities. The cost per additional person is lower in larger cities that may not only have to attend to their own populations, but the populations around them if they are in large metropolitan areas. Given this dynamic, people who are in surrounding cities may be more inclined to seek medical attention in larger cities that they may perceive as having more resources or capacity. On the other hand, smaller cities have an easier time controlling their populations through the use of sanitary barriers, given the limited number of entrances to smaller cities. Larger cities, by contrast, have more points of entry via roads, state highways, and transportation hubs.

Second, the presence of a medical mayor mattered in early and prompt pandemic interventions. A combination of health expertise and political will prompted certain municipalities with medical mayors to proactively act in the face of COVID-19. Though this did not protect mayors against political backlash, as in the case of Capitólio, it does explain why certain cities took early or rigorous actions against the pandemic. This is not to say there were no exceptions to the rule. On the contrary, there were cities where medical mayors denied the pandemic and its interventions, but these were few when you examined the cities with medical mayors and the policies they implemented.

Although this study does not refute previous claims on polarization and state health capacity, it does stress the importance of applying traditional explanations of polarization across different levels of governance and interaction. Such an analysis provides a richer depiction of political life, specifically in areas of the Global South where the majority of political parties do not have clear platforms or incentives to adhere to political party structures. This article begins to articulate some of the unique features of municipal governance that permitted or blocked efforts to implement COVID-19 measures at the local level. Future studies need to adjudicate between which, if any, political actors played a determinant role in implementing all, some, or none of the measures. These political actors could include medical associations, business councils, municipal health secretaries, and informal workers.

References

Abers, R. N., Rossi, F. M. & von Bülow, M. (2021) 'State–society relations in uncertain times: Social movement strategies, ideational contestation and the pandemic in Brazil and Argentina,' *International Political Science Review*, 42(3), pp. 333–349.

Ames, B. (1995) 'Electoral rules, constituency pressures, and pork barrel: Bases of voting in the Brazilian Congress,' *The Journal of Politics*, 57(2), pp. 324–343.

Aroney, N. & Kincaid, J. (2017) *Courts in federal countries: Federalists or Unitarists?* Toronto: University of Toronto Press.

Aruguete, N., Calvo, E., Cantú, F., Ley, S., Scartascini, C. & Ventura, T. (2021) 'Partisan cues and perceived risks: The effect of partisan social media frames during the Covid-19 crisis in Mexico,' *Journal of Elections, Public Opinion and Parties*, 31(sup1), pp. 82–95.

Aruguete, N., Calvo, E. & Ventura, T. (2021) 'News by popular demand: Ideological congruence, issue salience, and media reputation in news sharing,' *The International Journal of Press/Politics*, 28(3), pp.558–579.

Barber, M. J. (2016) 'Ideological donors, contribution limits, and the polarization of American legislatures,' *The Journal of Politics*, 78(1), pp. 296–310.

Barber, M., McCarty, N., Mansbridge, J. & Martin, C. J. (2015) 'Causes and consequences of polarization,' *Political negotiation: A handbook,* 37, pp. 39–43.

Bennouna, C., Giraudy, A., Moncada, E., Rios, E., Snyder, R. & Testa, P. (2021) 'Pandemic policymaking in presidential federations: Explaining subnational responses to Covid-19 in Brazil, Mexico, and the United States,' *Publius: The Journal of Federalism*, 51(4), pp. 570–600.

Binder, S. A. (1999) 'The dynamics of legislative gridlock, 1947–96,' *American Political Science Review*, 93(3), pp. 519–533.

Blofield, M. & Hoffmann, B. (2020) *Social Policy Responses to the COVID-19 Crisis and the Road Ahead*, Vol. 7 of GIGA Focus Lateinamerika, Hamburg: GIGA German Institute of Global and Area Studies - Leibniz-Institut für Globale und Regionale Studien, Institut für Lateinamerika-Studien.

Bonica, A., Rosenthal, H., Blackwood, K. & Rothman, D. J. (2020) 'Ideological sorting of physicians in both geography and the workplace,' *Journal of Health Politics, Policy and Law*, 45(6), pp. 1023–1057.

Bonica, A., Rosenthal, H. & Rothman, D. J. (2014) 'The political polarization of physicians in the

United States: An analysis of campaign contributions to federal elections, 1991 through 2012,' *JAMA Internal Medicine*, 174(8), pp. 1308–1317.

Burki, T. (2020) 'Covid-19 in Latin America,' The Lancet Infectious Diseases 20(5), pp.547– 548.

Calvo, E. & Ventura, T. (2021) 'Will I get Covid-19? Partisanship, social media frames, and perceptions of health risk in Brazil,' Latin American Politics and Society 63(1), pp.1–26.

Carothers, T. & O'Donohue, A. (2019) *Democracies divided: The global challenge of political polarization*. Washington, D.C.: Brookings Institution Press.

Chaisty, P., Cheeseman, N. & Power, T. J. (2018) *Coalitional presidentialism in comparative perspective: Minority presidents in multiparty systems*. Oxford: Oxford University Press.

Cities, U. & Governments, L. (2008) *Decentralization and local democracy in the world: First global report by united cities and local governments 2008*. Washington, D.C.: World Bank Publications.

Cole, J. C., Flores, A., Jiga-Boy, G. M., Klein, O., Sherman, D. K. & Van Boven, L. (2022) 'Party over pandemic: Polarized trust in political leaders and experts explains public support for Covid-19 policies,' *Group Processes & Intergroup Relations* [Online First].

da Fonseca, E. M., Shadlen, K. C. & Bastos, F. I. (2021) 'The politics of Covid-19 vaccination in middle-income countries: Lessons from Brazil,' *Social Science & Medicine*, 281, 114093.

Desposato, S. W. (2006) 'Parties for rent? Ambition, ideology, and party switching in Brazil's chamber of deputies,' *American Journal of Political Science*, 50(1), pp. 62–80.

Domingues, C. M. A. S., Maranhão, A. G. K., Teixeira, A. M., Fantinato, F. F. & Domingues, R. A. (2020) 'The Brazilian national immunization program: 46 years of achievements and challenges,' *Cadernos de Saude Publica*, 36(supl 2).

Dunn, C. & Laterzo, I. (2021) 'State-level citizen response to Covid-19 containment measures in Brazil and Mexico,' *Journal of Politics in Latin America*, 13(3), pp. 328–357.

Falleti, T. G. (2010) *Decentralization and subnational politics in Latin America*. Cambridge, UK: Cambridge University Press.

Funk, C., Hefferon, M., Kennedy, B. & Johnson, C. (2019) 'Trust and mistrust in Americans' views of scientific experts,' *Pew Research Center*, 2 August. Available at: https://www.pewresearch.org/science/2019/08/02/trust-and-mistrust-in-americans-views-of-scientific-experts/.

Gailmard, S. & Patty, J. W. (2019) 'Preventing prevention,' *American Journal of Political Science*, 63(2), pp. 342–352.

Galston, W. A. & Nivola, P. S. (2006) 'Delineating the problem,' in Nivola, P.S. and Brady, D.W. (eds.) *Red and blue nation: Characteristics and causes of America's polarized politics*. Washington, D.C.: Brookings Institution Press, pp. 1–47.

Giraudy, A., Niedzwiecki, S. & Pribble, J. (2020) 'How political science explains countries' reactions to Covid-19,' *Americas Quarterly*, 30 April. Available at: https://www.americasquarterly.org/article/how-political-science-explains-countries-reactions-to-covid-19/.

Gragnolati, M., Lindelöw, M., Lindelow, M. & Couttolenc, B. (2013) *Twenty years of health system reform in Brazil: An assessment of the Sistema Único de Saúde*. Washington, D.C.: World Bank Publications.

Graham, M. H. & Svolik, M. W. (2020) 'Democracy in America? Partisanship, polarization, and the robustness of support for democracy in the United States,' *American Political Science Review*, 114(2), pp. 392–409.

Hamilton, L. C. & Safford, T. G. (2020) 'Ideology affects trust in science agencies during a pandemic,' *The Carsey School of Public Policy at the Scholars' Repository*. 391.

Hasen, R. L. (2019) 'Polarization and the judiciary,' *Annual Review of Political Science*, 22, pp. 261–276.

Healy, A. & Malhotra, N. (2009) 'Myopic voters and natural disaster policy,' *American Political Science Review*, 103(3), pp. 387–406.

Junior, A. M., Pereira, C. & Biderman, C. (2015) 'The evolution of theories about the Brazilian multiparty presidential system,' *Journal of Politics in Latin America*, 7(1), pp. 143–161.

Knaul, F. M., Touchton, M., Arreola-Ornelas, H., Atun, R., Anyosa, R. J. C., Frenk, J., Martínez-Valle, A., McDonald, T., Porteny, T., Sánchez-Talanquer, M., et al. (2021) 'Punt politics as failure of health system stewardship: Evidence from the Covid-19 pandemic response in Brazil and Mexico,' *The Lancet Regional Health-Americas Health Policy*, 4, 100086.

Lee, F. E. (2015) 'How party polarization affects governance,' *Annual Review of Political Science*, 18, pp. 261–282.

Lenz, G. S. (2013) *Follow the leader? How voters respond to politicians' policies and performance*. Chicago, IL: University of Chicago Press.

McCarty, N., Poole, K. T. & Rosenthal, H. (2016) *Polarized America: The dance of ideology and unequal riches*. Cambridge, MA: MIT Press.

Mignozzetti, U. & Spektor, M. (2019) 'Brazil: When political oligarchies limit polarization but fuel populism,' in Carothers, T. and O'Donohue, A. (eds.) *Democracies divided: The global challenge of*

political polarization. Washington, D.C.: Brookings Institution Press, pp. 228–256.

Persily, N. (2015) *Solutions to political polarization in America*. Cambridge: Cambridge University Press.

Post, A. E. & Kuipers, N. (2022) 'City size and public service access: Evidence from Brazil and Indonesia,' *Perspectives on Politics* [Online First].

Ribeiro, J. M., Moreira, M. R., Ouverney, A. M., Pinto, L. F. & Silva, C. M. F. P. d. (2018) 'Federalism and health policy in Brazil: Institutional features and regional inequalities,' *Ciencia & Saude Coletiva*, 23, pp. 1777–1789.

Rodrigues, G. M., de Oliveira, V. E., de Araújo, M. L. C. & Ferrari, S. (2021) 'Brazil and the fight against Covid-19: Strengthening state and municipal powers,' in Steytler, N. (ed.) *Comparative Federalism and Covid-19: Combating the Pandemic*. Milton Park, UK: Routledge, pp. 238–257.

Shipan, C. R. & Volden, C. (2008) 'The mechanisms of policy diffusion,' *American Journal of Political Science*, 52(4), pp .840–857.

Sugiyama, N. B. (2008), 'Theories of policy diffusion: social sector reform in Brazil,' C*omparative Political Studies*, 41(2), pp.193–216.

Touchton, M., Knaul, F. M., Arreola-Ornelas, H., Porteny, T., Sánchez, M., Méndez, O., Faganello, M., Edelson, V., Gygi, B., Hummel, C., et al. (2021) 'A partisan pandemic: State government public health policies to combat Covid-19 in Brazil,' *BMJ Global Health*, 6(6), e005223.

Van der Linden, S., Leiserowitz, A. & Maibach, E. (2019) 'The gateway belief model: A large-scale replication,' *Journal of Environmental Psychology*, 62, pp.49–58.

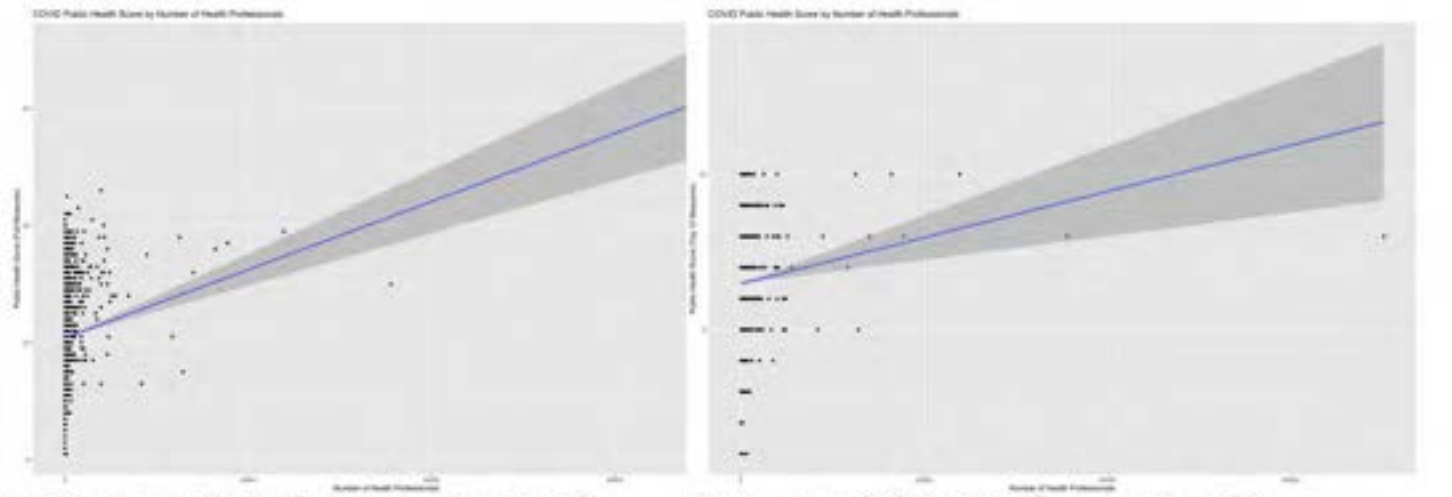
Appendix

Figure 1: Scatter plots of State Health Capacity Indicators on Public Health Scores

Figure 2: Scatter plots of Political Indicators on Public Health Scores

Table 1: Description of Measures Against COVID-19

Figure 1: Scatter Plots of State Health Capacity Indicators on Public Health Scores

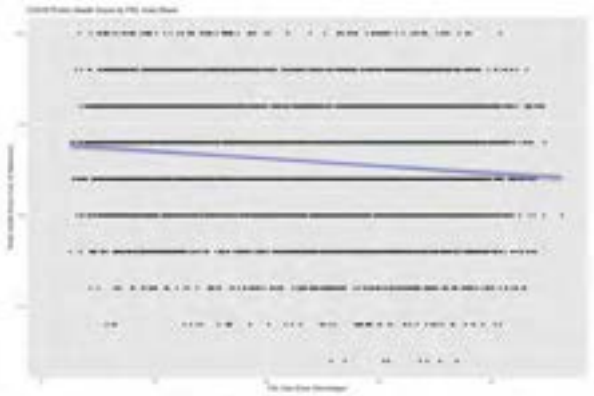


(a) Number of Medical Professionals on Public Health Score (Full)

(b) Number of Medical Professionals on Public Health Score (Top 10)

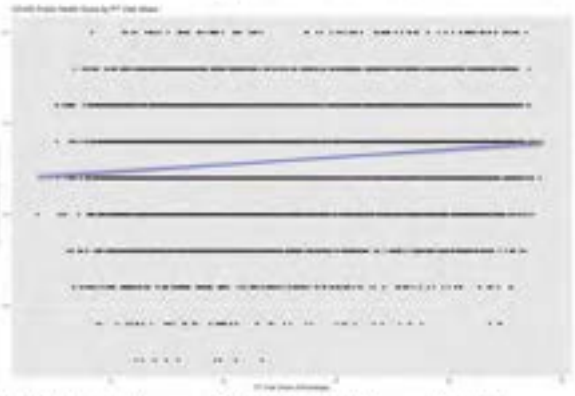
Figure 2: Scatter Plots of Political Indicators on Public Health Scores

(a) PSL Vote Share on Public Health Score (Full)



(b) PSL Vote Share on Public Health Score (Top 10)

(c) PT Vote Share on Public Health Score (Full)



(d) PT Vote Share on Public Health Score (Top 10)

Table 1: Description of Measures Against COVID-19

Number	Variable Name	Description	Source	Used for public health score?
1	Mcov01	Was a social isolation measure adopted due to COVID-19?	MUNIC 2020	Yes
2	Mcov011c	Decree issue month	MUNIC 2020	No
3	Mcov02	Was some form of monitoring used to ensure the enforcement of social isolation measures?	MUNIC 2020	Yes
4	Mcov03	Were sanitary barriers installed at municipal entrances during COVID-19?	MUNIC 2020	Yes
5	Mcov0311	Was information disseminated, through COVID-19 leaflets, principal symptoms, how it's transmitted, and how to protect oneself?	MUNIC 2020	Yes
6	Mcov0312	Were drivers and passengers questioned: asked their origin, destination, temperature taken, and suspicious cases forwarded to health units?	MUNIC 2020	Yes
7	Mcov0313	Were people not permitted to enter who could not prove their residence or essential work?	MUNIC 2020	Yes
8	Mcov04	Adopted some measure to regulate sanctions (fines, compulsory examinations, etc.) in case of non-compliance with social isolation rules.	MUNIC 2020	Yes
9	Mcov051	Disinfected neighborhoods and public spaces in the municipality.	MUNIC 2020	Yes
10	Mcov052	Distributed masks to the population in public spaces.	MUNIC 2020	Yes
11	Mcov053	Adopted mandatory use of masks in public transportation, public spaces, and businesses.	MUNIC 2020	Yes
12	Mcov054	Recommended the use of masks in public transportation, public spaces, and businesses.	MUNIC 2020	Yes
13	Mcov055	Expanded online services to serve the population.	MUNIC 2020	Yes

14	Mcov056	Anticipated a 13th salary for public servants.	MUNIC 2020	No
15	Mcov057	Tested population for COVID-19	MUNIC 2020	Yes
16	Mcov058	Acquired tests to test population for COVID-19	MUNIC 2020	Yes
17	Mcov0510	Distributed food baskets or food credits to families with students enrolled in the public-school network or childcare centers.	MUNIC 2020	Yes
18	Mcov0511	Even with the closure of public schools, cafeterias continued to function to offer snacks to enrolled students.	MUNIC 2020	Yes
19	Mcov0512	Carried out an operation to inspect the prices of products used to prevent coronavirus, such as hand sanitizer and masks.	MUNIC 2020	Yes
20	Mcov0513	Suspended the collection of active debt, including certificates of active debt, acts of filing financial foreclosures, and acts of active debt registration.	MUNIC 2020	Yes
21	Mcov061	Distributed hygiene kits (hand sanitizer, toilet paper, soap, toothpaste, and toothbrushes)	MUNIC 2020	Yes
22	Mcov062	Distributed cleaning kits (garbage bags, bars of soap, bleach, or disinfectant)	MUNIC 2020	Yes
23	Mcov063	Distributed masks	MUNIC 2020	Yes
24	Mcov064	Distributed food baskets or food credits to families receiving Bolsa Familia	MUNIC 2020	Yes
25	Mcov065	Distributed food baskets or food credits to the population that was economically affected by the pandemic, but was not enrolled in Bolsa Familia	MUNIC 2020	Yes
26	Mcov066	Created emergency locales (with the provision of meals, hygiene, medical screening, and psychological care) for the homeless population.	MUNIC 2020	Yes

27	Mcov067	Offered decentralized hygiene spaces for the homeless population.	MUNIC 2020	Yes
28	Mcov068	Created reception points for the homeless population.	MUNIC 2020	Yes
29	Mcov069	Organized receiving centers for donations of food, clothing, hygiene products, cleaning products, and other items.	MUNIC 2020	Yes
30	Mcov 0610	Registered families and individuals in Cadastro Único and Bolsa Família for access to social programs and social protection.	MUNIC 2020	Yes
31	Mcov 0611	Registered individuals to receive emergency aid from the federal government.	MUNIC 2020	Yes
32	Mcov 0612	Registered individuals to receive emergency aid from the municipal government.	MUNIC 2020	Yes
33	Mcov 0613	Expanded coverage for the granting of occasional benefits.	MUNIC 2020	Yes
34	Mcov 0614	Made possible the granting of eventual benefits to the population economically by the pandemic.	MUNIC 2020	Yes
35	Mcov 0615	Enabled the operation of CRAS and CREAS	MUNIC 2020	Yes
36	Mcov 0616	Guaranteed the operation of municipal reception units, regardless of the population served.	MUNIC 2020	Yes
37	Mcov 0617	Guaranteed the operation, with increased attention, to long-stay institutions for the elderly.	MUNIC 2020	Yes
38	Mcov 0618	Guaranteed the continuity of care for the chronically ill by monitoring this group, due to vulnerabilities and increased risk.	MUNIC 2020	Yes
39	Mcov 0619	Monitored domestic violence and other types of violence during the pandemic.	MUNIC 2020	Yes
40	Mcov0620	Kept Centers for Psychological Care (CAPS) in operation.	MUNIC 2020	Yes
41	Mcov07	Clinically or laboratory confirmed cases of COVID-19 occurred in the municipality.	MUNIC 2020	No
42	Mcov08	Triage tents were installed to combat COVID-19 in the municipality.	MUNIC 2020	Yes

43	Mcov09	Among people who contracted COVID-19, was there any need for hospitalization?	MUNIC 2020	No
44	Mcov10	Did the number of hospitalizations exceed the capacity of beds, public or private, associated with SUS and within the municipality during COVID-19?	MUNIC 2020	No
45	Mcov11	Were the number of beds increased to meet the demand for hospitalization in the municipality due to COVID-19?	MUNIC 2020	Yes
46	Mcov121	Did expansion take place due to: own municipal structure?	MUNIC 2020	Yes
47	Mcov122	Did expansion take place due to: agreement with another municipality?	MUNIC 2020	Yes
48	Mcov123	Did expansion take place due to: agreement with the state?	MUNIC 2020	Yes
49	Mcov124	Did expansion take place due to: agreement with the federal government?	MUNIC 2020	Yes
50	Mcov125	Did expansion take place due to: agreement with a private entity?	MUNIC 2020	Yes
51	Mcov13	A field hospital was installed during the COVID-19 pandemic in the municipality.	MUNIC 2020	Yes
52	Mcov14	In cases of hospitalization for COVID-19, there was a need to refer the patient(s) to another municipality.	MUNIC 2020	No
53	Mcov15	During the pandemic, it was necessary to keep people for more than 24 hours in units without hospitalization.	MUNIC 2020	No
54	Mcov16	Among the people who contracted COVID-19, did any death occur?	MUNIC 2020	No
55	Mcov17	The municipality adopted some measure of rotation in the circulation of cars, motorcycles, buses, or other public or private transport during the COVID-19 pandemic period.	MUNIC 2020	Yes