

Article

Not peer-reviewed version

State Responses to a Public Health Emergency: The Divergence of Politics and Administration in COVID-19 Vaccinations

[Christian L. Janousek](#)^{*} and Shihyun Noh

Posted Date: 17 July 2024

doi: 10.20944/preprints202407.1382.v1

Keywords: politics and administration; COVID-19; public health; public policy; federalism



Preprints.org is a free multidiscipline platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Article

State Responses to a Public Health Emergency: The Divergence of Politics and Administration in COVID-19 Vaccinations

Christian L. Janousek ^{1,*} and Shihyun Noh ²

¹ Department of Political Science and International Relations, Creighton University, Omaha, NE, USA; christianjanousek@creighton.edu

² Department of Public Administration, State University of New York Brockport, Rochester, NY, USA; snoh@brockport.edu

* Correspondence: christianjanousek@creighton.edu

Abstract: Amid the array of challenges prompted by the COVID-19 pandemic, the policy response of governments proved vital. The U.S. states pursued varied policy approaches that demonstrated distinct divergences in impact. Particularly, contrasting state contexts produced markedly assorted frameworks for the delivery of public health services, which indicate potential effects for COVID-19 policy implementation. Using the rates of COVID-19 vaccinations as a measure of policy execution, the purpose of this study is to examine the political and administrative influences contributing to differences in COVID-19 public health policy outcomes among the U.S. states. Ordinary least squares (OLS) regression models included data sources of nationally representative information pertaining to state public health attributes of politics and administration during the height of the pandemic and vaccine campaign. The findings suggest that state political and fiscal orientations display significant associations with COVID-19 vaccination disparities, while other administrative indicators did not. The results signal important policy implications for the politics-administration dynamic within the COVID-19 pandemic and offer further understanding toward the roles of federalism and governance in future public health emergencies.

Keywords: politics and administration; COVID-19; public health; public policy; federalism

1. Introduction

In the midst and aftermath of the COVID-19 pandemic, the response of governments represented a critical effort toward mitigation and prevention. The urgent and extraordinary circumstances unquestionably strained existing public health systems beyond expected limits, exacting a necessity for efficient and effective policy outcomes. In the U.S., the immensity of this challenge intensified the inherent successes and shortcomings of federalism as public officials at all levels of government balanced policy options and directives with available resources and capabilities [1,2]. The division of powers provides a full spectrum of state responses in health emergency situations [3,4]. Notably, divergences in politics and administration among the states may have yielded dissimilarities in results [5,6], especially relating to the key policy pursuit of COVID-19 vaccinations [7–9].

The purpose of this study is to examine the political and administrative influences contributing to differences in COVID-19 public health policy outcomes among the U.S. states. Specifically, in the framework of federalism, what is the impact of state political and administrative contexts on COVID-19 vaccination rates? Focusing on COVID-19 vaccinations as a measure of policy execution, this research incorporates four hypotheses to address the overall effect of politics-administration in the pandemic response of American states. Primarily, political contexts entail social and cultural governing dispositions that may motivate state persuasions toward both public health policy and administration [10–16]. However, administrative contexts encompass the institutional arrangements

and governance designs of implementing agencies, involving aspects of decentralization, independence, and administrative aptitude in state public health services [17–24]. Utilizing indicators for these state features of politics and administration, this study offers a uniquely comprehensive view of the potential impacts on public health policy during the height of the COVID-19 pandemic and vaccination campaign [25]. The findings suggest that state political and fiscal orientations display significant associations with vaccination rates, while other administrative factors did not.

Prior research has explored issues of COVID-19 policy implementation [26–28], including the political implications and policy outcomes of state selection in mask mandates and lockdowns [29–32]. However, volatile attributes of American federalism exhibited during the pandemic encourage further consideration in this area [33,34], particularly toward the core policy goal of vaccination. Well recorded is the expanded federal role in public health due to COVID-19 [35–37] and in the pivotal development and free distribution of vaccines [38]. Yet, states were responsible for the coordination of vaccines, the determination of critical populations, and the support and monitoring of vaccine allocation in communities [39]. This study observes that imperative facet, adding to this gap of understanding with a dual vantage point that comprises both political and administrative effects in COVID-19 public health policy in U.S. states during this emergency event.

From a theoretical perspective, policy outcomes epitomize the broader conceptual linkage of the politics and administration relationship. Foundational works in the field suggest that the separational ‘dichotomy’ generally serves as an abstract distinction of influence among executive and legislative roles [40,41]. Within this normative premise, the bridging element of policy represents an area of complementarity between politicians and administrators in the intersect of application toward addressing public interests [42,43], particularly magnified by the overlapping operations and demands of contemporary federalism and governance [44,45]. In other words, aside from the larger philosophical debate, public policy best signifies the authentic synchronization of political and administrative enterprise in governmental functionality toward implementation [46]. This study aims to add to the continued evolution of the politics-administration nexus within the overarching theme of federalism and the related repercussions revealed through variant public health policy results in extreme situations of service complexity and civic need.

The organization of this study is as follows. First, a review of the literature describes federalism and politics-administration for public health policy in the U.S. states, which informs the theoretical expectations. Next, a description of methods identifies the research approach, followed by data analysis and interpretation of the findings. Finally, a concluding discussion addresses implications and recommendations for future research.

2. Federalism and Politics-Administration in Public Health Policy

The American federal system demarcates powers held by the national and fifty state governments, which crafts a multipart arrangement of intergovernmental relationships and balancing tensions in governance [47,48]. Within this assembly, interactions and internal policies exemplify vast mixtures in political formulation spurred by geographical, ideological, and cultural peculiarities [49]. Federalism impacts government management and, in turn, policy outputs by dictating the manner of networks and interfaces among entities, demonstrated in patterns of traditional top-down policy diffusion and more novel groupings of localized and interdependent configurations [50]. Such conditions stimulate policy learning and innovation, as the states regularly assume the role of ‘laboratories’ in experimenting with policy alternatives [51,52]. Yet, the division of powers and patently exclusive political contexts of the states create a fracturing of public policy, which is most apparent in specialized areas, such as healthcare, and in times of crises [53].

In public health, the federal structure acts as a mode of devolution in which the administration of massive national health platforms, such as Medicaid and the Patient Protection and Affordable Care Act (ACA), rests with the states, creating an assortment of programmatic identities typically reliant upon state resources and political inclinations [54]. Such fragmentation inevitably warrants inconsistency that, while beneficial for policy invention, may limit the propensity for uniform remedies to widespread problems [55]. Amid the challenges of the COVID-19 pandemic, existing

imbalances in healthcare governance coupled with leadership gaps and partisan disputes generated a polarized and dualistic approach, establishing concurrently divergent, and in some cases contradictory, public health policy responses [2,5,7,16]. Noticeably, the ever-expanding disconnect between the federal and state governments in this policy arena was deepened, leaving states and localities in control by default [1,35].

A federal system fosters allotments of authority and action among governments, with coordinating relationships between elected officials, implementing agencies, and constituents [56,57]. The nature, composition, and application of government all impact institutional character and layout, which lend to special aspects of autonomy, originality, and dissemination [58,59], principally in areas such as public policy [60,61] and revealed both during and after the COVID-19 pandemic [17,62,63]. Each state cultivates discrete relationships in the devise and delivery of public health policy, resulting in interspersed responsibilities and obligations [64] that may prompt deviating outputs. Of particular interest, during the COVID-19 pandemic, wide variation existed among states in the percentage of fully vaccinated persons, with the highest rate in Rhode Island (80.5 percent) and the lowest in Alabama (50.2 percent) [38]. Thus, within a broader setting of federalism, this study distinctively seeks to advance understanding of the political-administrative dynamic within U.S. states that produced such disparate policy outcomes.

2.1. Theoretical Expectations

2.1.1. State Political Contexts in Public Health

Political factors guide an array of government properties evident at the state and local levels, including structures, policy, and efficacy [65–68]. In the COVID-19 pandemic, state political orientations, expressive of partisan divides and state-local disagreement, assumed a stake in policy decisions and reactions. For instance, the political stance of governors may have been persuasive in state policies toward mask mandates [29], and such policies met public resistance in conservative-leaning states [31]. As a result, policy responses fluctuated, and the actions taken within individual states and among local governments exposed preexistent tensions and politically motivated catalysts, contributing to differences in outcomes such as mortality rates [69]. Backlashes against executive orders and bureaucratic policymaking fueled dissensions between state legislatures and governors as well as intrastate political polarizations and compliance pushback from local governments [13,27]. Such divisions among the states, overlaying elements of partisan discrepancy, conflicts and distrust, and newly strained intergovernmental relationships, convey a potency of political factors in public health policy during the COVID-19 emergency.

The influence of state agencies in policy decisions and formation appears more expansive within the executive branch, classically with governors, as opposed to the more fractured political interests embodied within state legislatures and local governments [11,70]. In this way, the impetus for policy aligns with the public choice theory of political economy, alleging that public officials will habitually act in self-interest by endorsing policies that are most amenable to their own organizations, political expediencies, and constituents [14], which shapes the temperament of the policymaking process and the character of the policy approach [15]. Of interest, Democrat governors depict a higher amenability to state health policy adoption and implementation [71,72], possibly associated with higher levels of COVID-19 vaccination rates [69]. Based on the above, Hypothesis 1 posits:

Hypothesis 1. *A state with a Democrat governor is positively associated with COVID-19 vaccination rates.*

In situations of divided government, where competing political parties split control of the governorship and state legislature, the prospect for policy compromise may be more limited and may prolong the timeframe for action [73,74]. In public health policy, this effect is often accentuated, predictably at the state level where executive responsibility in healthcare is commonly more concentrated and centralized [54]. During the pandemic, policies for infection mitigation, such as wearing a mask, necessitated concerted efforts from both state executive and legislative actors [26,30],

which potentially amplified political leanings in COVID-19 vaccination policies [8]. As such, Hypothesis 2 posits:

Hypothesis 2. *A state with divided government is negatively associated with COVID-19 vaccination rates.*

2.1.2. State Administrative Contexts in Public Health

In the U.S., state public health governance structures refer to the organizational relationships among state and local units in the delivery of public health services [64,75]. For state policies, the institutional interactions between state officials/agencies and local governments may yield improved cooperation and coordination in implementation and sponsorship [18,61]. However, internal state structures vary in degrees of centralization, which prescribes interorganizational affiliations among state agencies and local entities [4,75]. For example, the institutional location within state government may portend more control over policy implementation by those public health agencies afforded greater independence in operation [22,70]. Recent research suggests that decentralized structures may increase cooperative ventures among officials, aiding collaborative policymaking and joint outcomes in public health [3,76] and interlocal sustainability [77].

Assessing the impact of COVID-19, propositions for improved public health systems include decentralized tactics, such as community-based health initiatives for enhanced partnership and communication among organizations [28,62]. Decentralized public health configurations proved to be effective during the pandemic, as states and localities filled in the gaps of implementation from federal directives [26]. In contrast, internationally, strongly centralized approaches were less effective in public health objectives and impeded the ability of local entities to handle rapidly evolving conditions [78,79]. However, some U.S. states with higher levels of local government autonomy witnessed fewer independent actions taken by local officials in addressing COVID-19 issues [9], while such states were also more likely to experience preemption and increased centralization of policy directives by state governors during the pandemic [32]. Based on the above arguments, Hypothesis 3 posits:

Hypothesis 3. *A state with decentralized public health governance structures is positively associated with COVID-19 vaccination rates.*

Existing research of local immunization rates and programs among U.S. health departments distinguishes several factors that may enrich the efficacy of service and policy delivery, including organizational leadership and alignment, resources, political relationships, community partnerships, credibility, and cultural competency [23]. The capacity attributes of states, including rural orientations that may be symptomatic of lower socioeconomic status and healthcare employment per capita, signal associations with state systems for medical countermeasures and distribution during public health emergencies [21,80]. This lends to the aspect of state administrative capacity, comprising components of public health workforce and financial disposition, which may anticipate the ability of states to administer effectual services and outcomes for all populations [81–83], particularly in severe public health conditions [17]. Thus, accounting for the inherent capacity contrasts of the U.S. states, Hypothesis 4 posits:

Hypothesis 4. *A state with greater administrative capacity is positively associated with COVID-19 vaccination rates.*

3. Materials and Methods

3.1. Data and Sources

This study used multiple datasets from the Association of State and Territorial Health Officials (ASTHO) [64], Kaiser Family Foundation (KFF) [38,84], National Conference of State Legislatures (NCSL) [85], U.S. Bureau of Economic Analysis (BEA) [86], and the U.S. Centers for Disease Control

and Prevention (CDC) [87]. These data sources include nationally representative information pertaining to state vaccination rates and public health characteristics of politics and administration within the height of the pandemic and vaccine campaign [25]. The data cover 2021-2022 and include all fifty U.S. states (N=50), excluding the District of Columbia.

3.2. Models and Variables

The dependent variable is the total percentage rate of state residents designated as fully vaccinated, receiving two doses of a COVID-19 vaccine [87], which is a function of state political contexts, state administrative contexts of state public health governance and state administrative capacity, and state socioeconomic factors. Table 1 displays the variables, measures, and expected signs. Three models were used to assess the effects of state political and administrative contexts on the dependent variable. Model 1 incorporates state political contexts and controls, Model 2 integrates state public health administrative contexts and controls, and Model 3 is a comprehensive model with all variables.

Table 1. Variables, measures, and expected signs.

Variables	Description	Sign	Data Sources
Dependent Variable			
Percent of the population fully vaccinated	The percentage of state residents who received two doses of vaccine (2022)	N/A	U.S. Centers for Disease Control and Prevention (CDC)
Independent Variables			
<i>Political Contexts</i>			
Democrat governor	(1) A state with a Democrat governor; (0) a state without a Democrat governor (2021)	+	National Conference of State Legislatures (NCSL)
Divided government	(1) A state with a split between the party affiliation of the governor and the state legislature majority; (0) a state without divided government (2021)	-	National Conference of State Legislatures (NCSL)
<i>Administrative Contexts</i>			
Decentralized public health governance (state-local)	The relationship between state and local public health departments (decentralized) (1) a state with decentralized governance; (0) a state without decentralized governance (2021)	+	Association of State and Territorial Health Officials (ASTHO)
State public health personnel	Public health workforce capacity per 10,000 (2021)	+	Association of State and Territorial Health Officials (ASTHO)
State fiscal capacity	State GDP (per capita) (2021)	+	U.S. Bureau of Economic Analysis (BEA)
<i>Controls</i>			
State population	Total state population (log) (2021)	-	Kaiser Family Foundation (KFF)
Race/ethnicity	Non-white (%) (2021)	-	Kaiser Family Foundation (KFF)

State political contexts are composed of Democrat governor and divided government. A highly divided government complicates consensus, possibly hindering opportunities for effective policy execution, and states with majority Democrat support and governors tended to experience higher

vaccination compliance [8]. Democrat governor and divided government are dichotomous measures to designate states with Democrat governors coded as ‘1’ and divided state governments coded as ‘1’; otherwise coded as ‘0.’

State administrative contexts encompass state public health governance and the extent of state capacity to design and implement public health initiatives. The former portrays the relationship and alignment between state and local public health agencies. The states employ alterable configurations for public health governance that range in degrees of centralization [64], or concentrated state control and authority, which may affect service delivery and policy outcomes. A dummy variable designates states with decentralized public health governance coded as ‘1’; otherwise coded as ‘0.’ Moreover, state administrative capacity, represented by personnel and fiscal dimensions, may determine the extent of agency resources available to dispense health services [17], such as vaccines. Two variables for state administrative capacity, state public health workforce capacity per 10,000 and state per capita Gross Domestic Product (GDP), are considered in the models.

In addition, total state population and the percentage of non-white population are included in the models to control for state socioeconomic factors. The size of population can result in an increase in public demands, and the problem severity may affect the circulation and equity of health services. Specifically, during the pandemic, COVID-19 vaccination rates and deaths differed substantially by race/ethnicity [69,81,88].

3.3. Estimation Strategy and Limitations

Ordinary least squares (OLS) regression models with robust standard errors for unbiased OLS coefficients under heteroscedasticity were utilized. Diagnostics to address multicollinearity found no issues of correlation among the independent variables. However, this study is a preliminary study with a small sample size (N=50) and many explanatory variables, resulting in fewer degrees of freedom. The cross-sectional study design did not permit researchers to control for systematic differences resulting from varied state histories toward existing public health problems and contingencies, such as obesity rates, education levels, etc. The measure used for COVID-19 vaccination rates was limited by those vaccines that required two doses, which represented the predominant mode of vaccines administered [38,87] and does not account for single-dose vaccines. The purpose of this study was to examine political and administrative influences contributing to differences in public health policy outcomes among the U.S. states specific to vaccination rates during the crucial distribution period of the COVID-19 pandemic, as designated by the national government [25], which limits data sets to this timeframe and is not representative of changes or progressions in the status of such indicators that may have previously or subsequently transpired.

4. Results

4.1. State Political Contexts

The models in Table 2 contain the robust OLS regression estimators of the percent of the population fully vaccinated in U.S. states. Democrat governors were significantly associated with higher vaccination rates, as shown in Models 1 and 3. This finding is congruent with Hypothesis 1 and prior research of the political effects on state health policy and implementation during the pandemic [26,29,31,36] and expresses the influences of political polarization in COVID-19 policy and adherence among U.S. states [1,2,7,30,80]. However, divided government was not statistically related with the dependent variable, which opposes Hypothesis 2 and other extant studies [65,73,74].

Table 2. Contexts for the percent of population fully vaccinated in U.S. states.

Variables	Model 1	Model 2	Model 3
<i>Political Contexts</i>			
Democrat governor	.154** (.015)		.133** (.020)

	Divided government	.027 (.017)	.026 (.015)
<i>Administrative Contexts</i>			
	Decentralized public health governance (state-local)	-.022 (.025)	-.018 (.019)
	State public health personnel	.038* (.017)	.006 (.013)
	State fiscal capacity (state GDP)	.296** (.047)	.132* (.049)
<i>Controls</i>			
	State population	.002 (.008)	.018 (.017)
	Race/ethnicity	-.053 (.047)	-.084 (.059)
<i>Constant</i>		.515** (.118)	-2.995** (.495)
<i>F-value</i>		28.76	15.36
<i>R-squared</i>		.682	.730

* $p < .05$, ** $p < .01$, ‡: Robust standard errors, $N=50$.

The findings provide additional corroboration for the role of political contexts in state policy responses to the COVID-19 crisis and offer supplemental clarification of the politics-administration dynamic in state differences for vaccination campaigns. Previous studies suggest that, while adequate frameworks and alliances for emergency public health contingencies were instituted by federal and state organizations in reaction to the pandemic, political fracturing, exacerbated by partisan misrepresentations, financial missteps, and leadership deficiencies, ultimately undermined the viability of coordinated policy execution [4,35]. Hence, extenuating national circumstances and politicking negated preexisting protocols, damaged intergovernmental relationships and citizen trust, and created a vacuum of policy responsibility that devolved to the states [63]. In this way, state political orientations assumed a principal setting for COVID-19 policies and subsequent outcomes [5]. This key finding contributes to further understanding of the effects for state COVID-19 vaccination disparities in aspects of public health policy and federalism.

4.2. State Administrative Contexts

For state administrative contexts, the findings in Models 2 and 3 suggest that state public health governance structures with decentralized relationships between state and local agencies did not influence COVID-19 vaccination rates. This result is not in accordance with prior studies on the positive impacts of decentralized organizational arrangements for collaborative policymaking and outcomes [3,62,77–79] and is also contrary to research denoting the effects of agency configuration in health administration [22–24].

Although inconsistent with Hypothesis 3, the discrepant effects of structural governance could be credited to the unprecedented and urgent nature of the COVID-19 pandemic that may have obscured existing public health protocols [28,33]. In other words, because of the extraordinary and unparalleled circumstances, the intended operation of prevailing systems was compromised and compounded by emergency necessities, political stalemates, and rapidly evolving conditions [6,21]. Furthermore, during the time of the pandemic, many state governors assumed the lead on public health policy [13,32], issuing over 4,000 executive orders related to COVID-19 between 2020–2021 [89], which ostensibly may have added to the diminishing faculty and relevance of preceding configurations for administration and correspondingly intensified the influence of politics.

Examining the impact of state administrative capacity, the findings show that public health workforce per 10,000 state residents and state per capita real GDP were associated with vaccination rates in Model 2, excluding state political contexts, which aligns with Hypothesis 4. However, in the

comprehensive Model 3, only state GDP was statistically significant. Potentially, this may be ascribed to more collaborative substitutes for public health workforce during the pandemic, including nonprofits and private contractors as well as other public actors [9,19,27,51]. The positive effect of state GDP supports previous extrapolations of the financial component in COVID-19 vaccination campaigns [82].

To control for state socioeconomic factors, the models included total state population and the percentage of non-white population. Total state population did not affect the dependent variable. Likewise, the percentage of non-white population did not show a statistically significant association with state vaccination rates, which counters earlier research that documents this connection [81,84,87,88].

5. Discussion and Implications

The purpose of this study was to examine the political and administrative influences contributing to differences in COVID-19 public health policy outcomes among the U.S. states. Specifically, in the framework of federalism, what is the impact of state political and administrative contexts on COVID-19 vaccination rates? The findings display traits related to state political orientations, namely the party affiliation of governors, along with fiscal attributes of state GDP exhibited significant associations with COVID-19 vaccination rates, while other indicators of administrative design and capacity did not. The results provoke a broader discussion of the proper roles ascribed to politics and administration in effectual policy execution and the consequent positions of governments within federal systems for future public health emergencies.

In countering COVID-19, the national government activated emergency public health procedures. However, delays in action and coordination among officials and agencies affected applications [63]. Here, the scheme of federalism fittingly delegated remaining assignments to the states, which resulted in a deviation of policy approaches reflective of the political temperaments in individual states [10,27,37,54]. Ultimately, based on the findings of this research, the politics-administration nexus signaled an overarching predominance of political persuasion in the vaccination policy outcomes of states, which seemingly rendered existing administrative structures and conventions as immaterial. These interpretations are consistent with assertions from extant studies that suggest politics held a disproportionate locus of influence in the reaction and subsequent activities of governments toward the mitigation of COVID-19 through public policy, not just in the United States but worldwide [34,76,90]. Moving forward, this supposition is both revealing and disconcerting for public health, as even the most diligent and proactive protocols set forth by administrative agencies in preparation for extraordinary health events may be displaced by prevailing political sentiments of the moment.

What is more, the findings raise additional questions for the politics-administration relationship in public health crises and the necessity of aligning tasks within federalism for the coordination of equitable policy outcomes. Debatably, politics symbolize the formal arbiter for administration in a representative democracy, subject to the voting preferences of the citizenry and bound by the authorizations and oversight of elected officials in policy implementation [40]. Conversely, the assumption of expertise places administrators in a presumably better position to address specific policy contingencies, such as public health, creating opportunities for politics-administration synchronization in outputs that will be most beneficial to the overall public interest [4,42,51,56]. Modern iterations of the politics-administration dichotomy suggest a continuum model that coalesces roles of political and administrative actors for enhanced collaborative interactions and leadership [44]. Yet, the politicization of major policy functions, such as healthcare, may limit the aptitude afforded to administrators to operate accordingly [1,45,46]. As current research shows, social behaviors and attitudes typify fragmented political dispositions toward the issues of COVID-19 and vaccines among state populations and communities, demonstrating an impact on the administrative campaigns and policy efforts toward vaccination [16,81,91,92]. Relatedly, the findings of this study portend serious considerations for the cooperative link of politics-administration in producing

universal policy outcomes at the state level when facing massive public health predicaments on a scale of federalism.

As an example, the results of this research indicate that fiscal capacity, represented by state GDP, may have been instrumental in vaccination rates, which suggests that economic disparities among the states may have obstructed the ability to attain equivalent outcomes. State GDP is a function of economic policy that prefigures the political orientation and administrative organization of state systems. The national government sustained the financial volume to spearhead vaccine development and distribution, while state governments typically did not maintain adequate assets for such endeavors [39]. Historically, state governments have required a balancing of revenues and expenditures and have been prohibited from raising deficits [93], which could negatively constrict a state's flexibility in response to a COVID-type incident. As witnessed in the pandemic, such instances of federalism require a reciprocation of corresponding resources to obtain comparable results, which the states did not possess. During the COVID-19 emergency, the national government dramatically increased health spending from \$13 billion in 2019 to \$135 billion in 2020, while state and local governments augmented their health expenditures by only 9 percent from \$93 billion to \$102 billion [94]. Especially, the former spent over \$30 billion on vaccine development and distribution [38]. To ameliorate such policy discrepancies as beheld among the states for vaccinations, the findings of this study propose evidence for an expanded role of national governments in confronting COVID-level public health situations with a compatibly more localized duty for state-level governments and entities. As such, administrative and political officials in federal systems may seek more coordinated and anticipatory policy frameworks that designate appropriate best practices for each, with the objective to mitigate impediments prior to emergency events. This may likewise address operations most suitable to centralized and decentralized structures that are conducive to consistent and equitable policy effects, while in consideration of preexisting economic and capacity disparities among levels of government that may catalyze escalated political polarization and influence within federal configurations.

Certainly, there is need for further research. Enhanced understanding is required to distinguish those factors that produced such incongruent COVID-19 vaccination policy results in the U.S. states and globally. This is particularly accentuated by the observed disparities in public health equity, including the COVID-19 vaccination and mortality rates of minority populations [84,92,95]. Outside of this study, several restrictive factors may have affected the policy responses of governments during the pandemic, involving institutional limitations and internal dynamics, the scope of policy persuasion, and the range of interventions available to state and local policymakers [47,57]. These constructs relate to Peterson's [96] focus on the categories of public policy, such as developmental versus redistributive policies for the proper division of work among the federal, state, and local governments. Future research may want to review alternating responsibilities in federal systems for prior public health issues and examine viable functions assigned to each level of government. Of note is further investigation into the appropriate roles for politics and administration in public health policy, identifying areas of overlap and the potential for strengthened complementarity in collaborative governance, and explicitly how such dynamics may be harnessed to promote innovations of improved protocols and uniformity in outcomes for population health and large-scale vaccination campaigns.

6. Conclusion

The COVID-19 crisis epitomized an unprecedented public health episode of mammoth proportions. Within this predicament, the federal and state governments experienced exceptional challenges in the provision of safeguards and services. Existing models were defied, and novel problems were uncovered. A variety of unimagined exigencies tested preconceptions of federalism and public health policy. Overall, the system functioned suitably, and, in time, the U.S. found its way out of the pandemic. However, questions remain as to the lessons learned from this occurrence and how well governments and public health agencies will be prepared for such an event in the future. The intent of this research was to seek supplemental exploration of the influences affecting the

COVID-19 responses of states. While the findings suggest that state political and economic contexts played a part in policy outcomes for COVID-19 vaccinations, there is still more to discover. Continuing to gain further knowledge of how the politics-administration partnership can be utilized optimally in future public health emergencies may assist in obtaining more ideal outcomes for governments, policy, and the public.

Author Contributions: All authors contributed equally to this paper. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: These data were derived from the following resources available in the public domain: Association of State and Territorial Health Officials [<https://www.astho.org/>]; Kaiser Family Foundation [<https://www.kff.org/>]; National Conference of State Legislatures [<https://www.ncsl.org/>]; U.S. Bureau of Economic Analysis [<https://www.bea.gov/>]; U.S. Centers for Disease Control and Prevention [<https://www.cdc.gov/>].

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Benton, J. Edwin. 2020. "Challenges to Federalism and Intergovernmental Relations and Takeaways Amid the Covid-19 Experience." *American Review of Public Administration* 50 (6-7): 536-542. <https://doi.org/10.1177/0275074020941698>
2. Kincaid, John, and J. Wesley Leckrone. 2020. "Partisan Fractures in U.S. Federalism's COVID-19 Policy Responses." *State and Local Government Review* 52 (4): 298-308. <https://doi.org/10.1177/0160323X20986842>
3. Molina-Garzon, Adriana, Tara Grillos, Alan Zarychta, and Krister P. Anderson. 2022. "Decentralization Can Increase Cooperation among Public Officials." *American Journal of Political Science* 66 (3): 554-569. <https://doi.org/10.1111/ajps.12606>
4. Weissert, Carol S., and Matthew J. Uttermark. 2017. "Glass Half Full: Decentralization in Health Policy." *State and Local Government Review* 49 (3): 199-214. <https://doi.org/10.1177/0160323X17741945>
5. Birkland, Thomas A., Kristin Taylor, Desera A. Crow, and Rob DeLeo. 2021. "Governing in a Polarized Era: Federalism and the Response of U.S. State and Federal Governments to the COVID-19 Pandemic." *Publius: The Journal of Federalism* 51 (4): 650-672. <https://doi.org/10.1093/publius/pjab024>
6. McDonald III, Bruce D., Christopher B. Goodman, and Megan E. Hatch. 2020. "Tensions in State-Local Intergovernmental Response to Emergencies: The Case of COVID-19." *State and Local Government Review* 52 (3): 186-194. <https://doi.org/10.1177/0160323X20979826>
7. Jacobs, Nicholas. 2021. "Federalism, Polarization, and Policy Responsibility During COVID-19: Experimental and Observational Evidence from the United States." *Publius: The Journal of Federalism* 51 (4): 639-719. <https://doi.org/10.1093/publius/pjab014>
8. Kates, Jennifer, Jennifer Tolbert, and Anna Rouw. 2022. "The Red/Blue Divide in COVID-19 Vaccination Rates Continues: An Update." *Kaiser Family Foundation*. <https://www.kff.org/policy-watch/the-red-blue-divide-in-covid-19-vaccination-rates-continues-an-update/>
9. Patton, Dana, Ann Durand, Kyle Whipple, and David L. Albright. 2022. "Local Autonomy and Response to the COVID-19 Pandemic." *State and Local Government Review* 54 (2): 165-173. <https://doi.org/10.1177/0160323X221089661>
10. Albrecht, Don. 2022. "Vaccination, Politics and COVID-19 Impacts." *BMC Public Health* 22 (1). <https://pubmed.ncbi.nlm.nih.gov/35031053/>
11. Barrilleaux, Charles. 1999. "Governors, Bureaus, and State Policymaking." *State and Local Government Review* 31 (1): 53-59. <https://doi.org/10.1177/0160323X9903100105>
12. Elazar, Daniel J. 1994. *The American Mosaic: The Impact of Space, Time, and Culture on American Politics*. Boulder, CO: Westview Press.
13. Federman, Peter Stanley, and Cali Curley. 2022. "Exploring Intra-State Tensions in Government Responses to COVID-19." *Publius: The Journal of Federalism* 52 (3): 476-496. <https://doi.org/10.1093/publius/pjac015>
14. Kettl, Donald F. 2015. *Politics of the Administrative Process*. 6th ed. Thousand Oaks, CA: Sage.
15. Kraft, Michael E., and Scott R. Furlong. 2024. *Public Policy: Politics, Analysis, and Alternatives*. 8th ed. Thousand Oaks, CA: Sage.

16. Sarathchandra, Dilshani, and Jennifer Johnson-Leung. 2024. "How Political Ideology and Media Shaped Vaccination Intention in the Early Stages of the COVID-19 Pandemic in the United States." *COVID 4*: 658-671. <https://doi.org/10.3390/covid4050045>
17. Atkinson, Christopher L. 2022. "Never in Our Imaginations: The Public Human Resources Response to COVID-19 in Northwest Florida." *COVID 2*: 102-116. <https://doi.org/10.3390/covid2020008>
18. Burke, Brendan F., and Deil S. Wright. 2002. "Reassessing and Reconciling Reinvention in the American States: Exploring State Administrative Performance." *State and Local Government Review* 34 (1): 7-19. <https://doi.org/10.1177/0160323X0203400101>
19. Hou, Yilin, Donald P. Moynihan, and Patricia Wallace Ingraham. 2003. "Capacity, Management, and Performance: Exploring the Links." *American Review of Public Administration* 33 (3): 295-315. <https://doi.org/10.1177/0275074003251651>
20. Lester, James P., and Malcolm L. Goggin. 1998. "Back to the Future: The Rediscovery of Implementation Studies." *Policy Currents* 8 (3): 1-9.
21. Myers, Nathan. 2021. "Rurality Versus Readiness: The Relationship Between State-Level Connection and Capacity Variables and the Management of Medical Stockpiles for a Public Health Emergency." *State and Local Government Review* 53 (4): 281-297. <https://doi.org/10.1177/0160323X211061352>
22. Noh, Shihyun, and Christian L. Janousek. 2018. "Institutional Design of the ACA Health Insurance Exchanges: Factors Affecting Policy Implementation in State Administration." *Journal of Health and Human Services Administration* 41 (2): 153-195. <https://www.jstor.org/stable/26974595>
23. Ransom, James, Katherine Schaff, and Lilly Kan. 2012. "Is There an Association Between Local Health Department Organizational and Administrative Factors and Childhood Immunization Coverage Rates?" *Journal of Health and Human Services Administration* 34 (4): 418-455. <https://journals.sagepub.com/doi/10.1177/107937391203400402>
24. Yesilkagit, Kutsal, and Jorgen G. Christensen. 2010. "Institutional Design and Formal Autonomy: Political Versus Historical and Cultural Explanations." *Journal of Public Administration Research and Theory* 20 (1): 53-74. <https://doi.org/10.1093/jopart/mup002>
25. U.S. Centers for Disease Control and Prevention. 2023. "End of the Federal COVID-19 Public Health Emergency (PHE) Declaration." <https://www.cdc.gov/coronavirus/2019-ncov/your-health/end-of-phe.html>
26. Alexander, Mathew, Lynn Unruh, Andriy Koval, and William Belanger. 2022. "United States Response to the COVID-19 Pandemic, January-November 2020." *Health Economics, Policy and Law* 17 (1): 62-75. <https://doi.org/10.1017%2FS1744133121000116>
27. Mallinson, Daniel J. 2020. "Cooperation and Conflict in State and Local Innovation During COVID-19." *American Review of Public Administration* 50 (6-7): 543-550. <https://doi.org/10.1177/0275074020941699>
28. Tulenko, Kate, and Dominique Vervoort. 2020. "Cracks in the System: The Effects of the Coronavirus Pandemic on Public Health Systems." *American Review of Public Administration* 50 (6-7): 455-466. <https://doi.org/10.1177/0275074020941667>
29. Chen, Can, Derrick Boakye Boadu, and Rikui Xiao. 2022. "Mask or No Mask for COVID-19? Do the Individual Characteristics of Governors Affect the Adoption of Statewide Public Mask Mandates?" *Public Performance & Management Review* 45 (5): 1214-1234. <https://doi.org/10.1080/15309576.2022.2093231>
30. Fischer, Charlie B., Nedghie Adrien, Jeremiah J. Silguero, Julianne J. Hopper, Abir I. Chowdhury, and Martha M. Werler. 2021. "Mask Adherence and Rate of COVID-19 Across the United States." *PLOS ONE* 16 (4): 1-10. <https://doi.org/10.1371/journal.pone.0249891>
31. Lyons, Jeffrey, and Luke Fowler. 2021. "Is It Still a Mandate if We Don't Enforce It? The Politics of COVID-related Mask Mandates in Conservative States." *State and Local Government Review* 53 (2): 106-121. <https://doi.org/10.1177/0160323X211035677>
32. Weissert, Carol S., Matthew J. Uttermark, Kenneth R. Mackie, and Alexandra Artiles. 2021. "Governors in Control: Executive Orders, State-Local Preemption, and the COVID-19 Pandemic." *Publius: The Journal of Federalism* 51 (3): 396-428. <https://doi.org/10.1093/publius/pjab013>
33. Dunlop, Claire A., Edoardo Ongaro, and Keith Baker. 2020. "Researching COVID-19: A Research Agenda for Public Policy and Administration Scholars." *Public Policy and Administration* 35 (4): 365-383. <https://doi.org/10.1177/0952076720939631>
34. Greer, Scott L., Elizabeth J. King, Elize Massard da Fonseca, and Andre Peralta-Santos, Eds. 2021. *Coronavirus Politics: The Comparative Politics and Policy of COVID-19*. Ann Arbor: University of Michigan Press.
35. Cigler, Beverly A. 2021. "Fighting COVID-19 in the United States with Federalism and Other Constitutional and Statutory Authority." *Publius: The Journal of Federalism* 51 (4): 673-692. <https://doi.org/10.1093/publius/pjab021>
36. Daguerre, Anne, and Tim Conlan. 2020. "Federalism in a Time of Coronavirus: The Trump Administration, Intergovernmental Relations, and the Fraying Social Compact." *State and Local Government Review* 52 (4): 287-297. <https://doi.org/10.1177/0160323X21990881>

37. Kettl, Donald F. 2020. "States Divided: The Implications of American Federalism for COVID-19." *Public Administration Review* 80 (4): 595-602. <https://doi.org/10.1111/puar.13243>
38. Kaiser Family Foundation. 2022a. "COVID-19 Vaccines Delivered and Administered." <https://www.kff.org/other/state-indicator/covid-19-vaccines-delivered-and-administered/>
39. National Governors Association. 2021. "State COVID-19 Vaccine Resources." <https://www.nga.org/publications/state-covid-19-vaccine-resources/>
40. Goodnow, Frank. 1900. *Politics and Administration*. New York: MacMillan.
41. Waldo, Dwight. 1948. *The Administrative State*. New York: Ronald Press Company.
42. Box, Richard C. 1992. "The Administrator as Trustee of the Public Interest." *Administration & Society* 24 (3): 323-345. <https://doi.org/10.1177/009539979202400303>
43. Svava, James H. 2006. "Complexity in Political-Administrative Relations and the Limits of the Dichotomy Concept." *Administrative Theory & Praxis* 28 (1): 121-139. <https://www.jstor.org/stable/25610781>
44. Callahan, Richard, and Tim A. Mau. 2024. "Reconceptualizing the Politics-Administration Dichotomy to Better Understand Public Leadership in the Twenty-First Century: A Multilateral Actors Model." *American Review of Public Administration* 54 (3): 229-241. <https://doi.org/10.1177/02750740231213407>
45. Moynihan, Donald P., and Patricia W. Ingraham. 2010. "The Suspect Handmaiden: The Evolution of Politics and Administration in the American State." *Public Administration Review* 70 (s1): S229-S237. <https://doi.org/10.1111/j.1540-6210.2010.02282.x>
46. O'Toole, Jr., Laurence J. 2004. "The Theory-Practice Issue in Policy Implementation Research." *Public Administration* 82 (2): 309-329. <https://doi.org/10.1111/j.0033-3298.2004.00396.x>
47. Agranoff, Robert. 2011. "Federalist No. 44: What is the Role of Intergovernmental Relations in Federalism?" *Public Administration Review* 71 (s1): S68-S77. <https://doi.org/10.1111/j.1540-6210.2011.02464.x>
48. Wright, Deil S. 1988. *Understanding Intergovernmental Relations*. 3rd ed. Pacific Grove, CA: Brooks/Cole.
49. Elazar, Daniel J. 1972. *American Federalism: A View from the States*. 2nd ed. New York: Thomas Y. Crowell.
50. Agranoff, Robert, and Michael McGuire. 2001. "American Federalism and the Search for Models of Management." *Public Administration Review* 61 (6): 671-681. <https://doi.org/10.1111/0033-3352.00138>
51. Carter, Larry E., and James T. LaPlant. 1997. "Diffusion of Health Care Policy Innovation in the United States." *State and Local Government Review* 29 (1): 17-26. <https://doi.org/10.1177/0160323X9702900102>
52. Leong, Ching, and Michael Howlett. 2022. "Policy Learning, Policy Failure, and the Mitigation of Policy Risks: Re-Thinking the Lessons of Policy Success and Failure." *Administration & Society* 54 (7): 1379-1401. <https://doi.org/10.1177/00953997211065344>
53. Bowman, Ann O'M., and Richard C. Kearney. 2022. *State and Local Government*. 11th ed. Boston, MA: Cengage.
54. Meacham, Michael R. 2021. *Longest's Health Policy Making in the United States*. 7th ed. Chicago, IL: Health Administration Press.
55. Martin, Erika G., Patricia Strach, and Bruce R. Schackman. 2013. "The State(s) of Health: Federalism and the Implementation of Health Reform in the Context of HIV Care." *Public Administration Review* 73 (s1): S94-S103. <https://doi.org/10.1111/puar.12072>
56. Ansell, Chris, and Alison Gash. 2008. "Collaborative Governance in Theory and Practice." *Journal of Public Administration Research and Theory* 18 (4): 543-571. <https://doi.org/10.1093/jopart/mum032>
57. Seidman, Harold. 1998. *Politics, Position, and Power: The Dynamics of Federal Organization*. 5th ed. New York: Oxford University Press.
58. Nelson, Kimberly. 2011. "State-Level Autonomy and Municipal Government Structure: Influence on Form of Government Outcomes." *American Review of Public Administration* 41 (5): 542-561. <https://doi.org/10.1177/0275074010382134>
59. Walker, Richard M. 2006. "Innovation Type and Diffusion: An Empirical Analysis of Local Government." *Public Administration* 84 (2): 311-335. <https://doi.org/10.1111/j.1467-9299.2006.00004.x>
60. Goggin, Malcolm L., Ann O. Bowman, James P. Lester, and Laurence O'Toole, Jr. 1990. *Implementation Theory and Practice: Toward a Third Generation*. Glenview, IL: Scott Foresman & Company.
61. Hays, R. Allen. 1988. "State-Local Relations in Policy Implementation: The Case of Highway Transportation in Iowa." *Publius: The Journal of Federalism* 18 (1): 79-95. <https://www.jstor.org/stable/3330382>
62. Angelici, Marta, Paolo Berta, Joan Costa-Font, and Gilberto Turati. 2023. "Divided We Survive? Multilevel Governance During the COVID-19 Pandemic in Italy and Spain." *Publius: The Journal of Federalism* 53 (2): 227-250. <https://doi.org/10.1093/publius/pjad002>
63. Kapucu, Naim, and Qian Hu. 2022. "An Old Puzzle and Unprecedented Challenges: Coordination in Response to the COVID-19 Pandemic in the U.S." *Public Performance & Management Review* 45 (4): 773-798. <https://doi.org/10.1080/15309576.2022.2040039>
64. Association of State and Territorial Health Officials. 2021. "ASTHO Profile of State and Territorial Public Health." <https://www.astho.org/topic/public-health-infrastructure/profile/#governance>

65. Bowling, Cynthia J., and Margaret R. Ferguson. 2001. "Divided Government, Interest Representation, and Policy Differences: Competing Explanations of Gridlock in the Fifty States." *Journal of Politics* 63 (1): 182-206. <https://doi.org/10.1111/0022-3816.00064>
66. DeSantis, Victor S., and Tari Renner. 1994. "The Impact of Political Structures on Public Policies in American Counties." *Public Administration Review* 54 (3): 291-295. <https://doi.org/10.2307/976734>
67. Jeong, Moon-Gi. 2007. "Local Political Structure, Administrative Capacity, and Revenue Policy Choice." *State and Local Government Review* 39 (2): 84-95. <https://doi.org/10.1177/0160323X0703900203>
68. Wolfinger, Raymond E., and John Osgood Field. 1966. "Political Ethos and the Structure of City Government." *American Political Science Review* 60 (2): 306-326. <https://doi.org/10.2307/1953358>
69. Rambotti, Simone, Caroline Wolski, and Kathryn Freeman Anderson. 2023. "It Didn't Go Away: The Political and Social Determinants of COVID-19 Mortality Rates across Counties in the United States." *COVID 3*: 370-380. <https://doi.org/10.3390/covid3030027>
70. Palus, Christine Kelleher, and Susan Webb Yackee. 2012. "Oversight as Constraint or Catalyst? Explaining Agency Influence on State Policy Decision Making." *American Review of Public Administration* 43 (3): 273-291. <https://doi.org/10.1177/0275074012443730>
71. Jones, David K., Katharine W. V. Bradley, and Jonathan Oberlander. 2014. "Pascal's Wager: Health Insurance Exchanges, Obamacare, and the Republican Dilemma." *Journal of Health Politics, Policy and Law* 39 (1): 97-137. <https://doi.org/10.1215/03616878-2395190>
72. Noh, Shihyun, and Ji Hyung Park. 2022. "The Determinants of Targeted Transparency in the U.S. States: The Roles of Targeted Organizations and State Fiscal Environments." *Public Performance & Management Review* 45 (2): 329-351. <https://doi.org/10.1080/15309576.2021.2016449>
73. Alt, James E., David Dreyer Lassen, and Shanna Rose. 2006. "The Causes of Fiscal Transparency: Evidence from the U.S. States." *IMF Staff Papers* 53: 30-57. <https://www.imf.org/External/Pubs/FT/staffp/2006/03/alt.htm>
74. Nicholson-Crotty, Sean. 2015. *Governors, Grants, and Elections: Fiscal Federalism in the American States*. Baltimore, MD: Johns Hopkins University Press.
75. U.S. Centers for Disease Control and Prevention. 2022a. "Health Department Governance." <https://www.cdc.gov/publichealthgateway/sitesgovernance/index.html>
76. Casula, Mattia, and Serafín Pazos-Vidal. 2021. "Assessing the Multi-level Government Response to the COVID-19 Crisis: Italy and Spain Compared." *International Journal of Public Administration* 44 (11-12): 994-1005. <https://doi.org/10.1080/01900692.2021.1915330>
77. Farmer, Jayce L. 2022. "State Interventions and Interlocal Collaborations Across the Three Pillars of Sustainability." *State and Local Government Review* 54 (2): 120-145. <https://doi.org/10.1177/0160323X221089664>
78. Agomor, Kingsley S., Zechariah Langnel, and Maliha Abubakari. 2023. "Reclaiming the Authority to Plan: Recentralization of COVID-19 Response in Ghana." *International Journal of Public Administration* 1-11. <https://doi.org/10.1080/01900692.2023.2209827>
79. Shringare, Alaknanda, and Seema Fernandes. 2020. "COVID-19 Pandemic in India Points to Need for a Decentralized Response." *State and Local Government Review* 52 (3): 195-199. <https://doi.org/10.1177/0160323X20984524>
80. Rocco, Philip, and Amanda Kass. 2022. "Flexible Aid in an Uncertain World: The Coronavirus State and Local Fiscal Recovery Funds Program." *State and Local Government Review* 54 (4): 346-361. <https://doi.org/10.1177/0160323X221101005>
81. Argeros, Grigoris, Jenni L. Hoffman, and Natalie Dove. 2023. "An Exploratory Ecological Study between COVID-19 Vaccination Rate and Racial/Ethnic and Socioeconomic Status Neighborhood Conditions in Michigan." *COVID 3*: 246-254. <https://doi.org/10.3390/covid3020019>
82. Ngo, Vu M., Klaus F. Zimmermann, Phuc V. Nguyen, Toan L.D. Huynh, and Huan H. Nguyen. 2022. "How Education and GDP Drive the COVID-19 Vaccination Campaign." *Archives of Public Health* 80 (1): 1-14. <https://doi.org/10.1186/s13690-022-00924-0>
83. Noh, Shihyun. 2016. "Federal Strategies to Induce Resistant States to Participate in the ACA Health Exchanges." *State and Local Government Review* 48 (4): 227-235. <https://doi.org/10.1177/0160323X16685371>
84. Kaiser Family Foundation. 2022b. "COVID-19 Vaccinations by Race/Ethnicity." <https://www.kff.org/other/state-indicator/covid-19-vaccinations-by-race-ethnicity/>
85. National Conference of State Legislatures. 2021. "State Partisan Composition." <https://www.ncsl.org/about-state-legislatures/state-partisan-composition>
86. U.S. Bureau of Economic Analysis. 2022. "GDP by State." <https://www.bea.gov/>
87. U.S. Centers for Disease Control and Prevention. 2022b. "COVID Data Tracker." <https://covid.cdc.gov/covid-data-tracker/>
88. Ndugga, Nambi, Latoya Hill, Samantha Artiga, and Sweta Haldar. 2022. "Latest Data on COVID-19 Vaccinations by Race/Ethnicity." <https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-by-race-ethnicity/>

89. Council of State Governments. 2022. "2020-2021 Executive Orders." <https://web.csg.org/covid19/executive-orders/>
90. Touchton, Michael, Felicia Marie Knaul, Timothy McDonald, and Julio Frenk. 2023. "The Perilous Mix of Populism and Pandemics: Lessons from COVID-19." *Social Sciences* 12 (7): 383. <https://doi.org/10.3390/socsci12070383>
91. U.S. Centers for Disease Control and Prevention. 2024. "COVIDVaxView." <https://www.cdc.gov/vaccines/imz-managers/coverage/covidvaxview/index.html>
92. National Institutes of Health. 2024. "NIH COVID-19 Research Initiatives." <https://covid19.nih.gov/nih-strategic-response-covid-19/research-initiatives>
93. Weissert, William G., and Carol S. Weissert. 2012. *Governing Health: The Politics of Health Policy*. Baltimore, MD: Johns Hopkins University Press.
94. Kates, Jennifer, Cynthia Cox, and Josh Michaud. 2023. "How Much Could COVID-19 Vaccines Cost the U.S. After Commercialization?" *Kaiser Family Foundation*. <https://www.kff.org/coronavirus-covid-19/issue-brief/how-much-could-covid-19-vaccines-cost-the-u-s-after-commercialization/>
95. Kaiser Family Foundation. 2022c. "COVID-19 Deaths by Race/Ethnicity." <https://www.kff.org/other/state-indicator/covid-19-deaths-by-race-ethnicity/>
96. Peterson, Paul E. 1995. *The Price of Federalism*. Washington, DC: Brookings Institution Press.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.