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BRIEF REPORT

What industries received COVID-19 closure orders? A cross-state comparison in the US [version 1; peer review: 1 approved, 1 approved with reservations]

Philip Jacobs , Arvi P. Ohinmaa

Department of Medicine, University of Alberta, Edmonton, AB, T5T 2W8, Canada

V1 First published: 27 Jul 2020, 9:772
<https://doi.org/10.12688/f1000research.25199.1>
Latest published: 27 Jul 2020, 9:772
<https://doi.org/10.12688/f1000research.25199.1>

Abstract

The United States federal government developed a COVID-19 blueprint for states to follow; it included the issuance by state/local governments of “stay at home” orders coupled with lists of essential services. Suppliers of these services would be exempt from closure so their workers could fulfill their essential functions. The blueprint was embraced by the states in a variety of ways. In this paper, we identify how business closure rules were enacted across the states for each of 15 types of services. The outcome measures were: “open” “open with restrictions” and “closure”.

For six business types, most states permitted businesses to open. In four types, businesses were mainly closed. In three, they were allowed to open with restrictions. In the rest, there was a mixture of outcomes. In sum, the federal blueprint resulted in a regulatory patchwork as it spread throughout the country.

Keywords

COVID-19, Essential suppliers, Economy

This article is included in the **Emerging Diseases and Outbreaks** gateway.

This article is included in the **Coronavirus** collection.

Open Peer Review

Approval Status ? ✓

	1	2
version 1	?	✓
27 Jul 2020	view	view

1. **Clara Dismuke-Greer**, Palo Alto VA
Healthcare System, Palo Alto, USA

2. **Ceri J. Phillips** , Swansea University,
Swansea, UK

Any reports and responses or comments on the article can be found at the end of the article.

Corresponding author: Philip Jacobs (philjacobs@shaw.ca)

Author roles: **Jacobs P:** Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Software, Supervision, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing; **Ohinmaa AP:** Data Curation, Investigation, Project Administration, Software, Visualization

Competing interests: No competing interests were disclosed.

Grant information: The author(s) declared that no grants were involved in supporting this work.

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How to cite this article: Jacobs P and Ohinmaa AP. **What industries received COVID-19 closure orders? A cross-state comparison in the US [version 1; peer review: 1 approved, 1 approved with reservations]** F1000Research 2020, 9:772 <https://doi.org/10.12688/f1000research.25199.1>

First published: 27 Jul 2020, 9:772 <https://doi.org/10.12688/f1000research.25199.1>

Introduction

When the coronavirus (COVID-19) pandemic took hold in the U.S., the federal government developed a blueprint for the states to follow¹. This plan included stay-at-home orders and a list of closure-exempted essential services, which was developed by the Cybersecurity and Infrastructure Security Agency (CSIA)². In 42 states, governors issued state-wide stay-at-home mandates. Guided by the CSIA list, 28 states developed lists of non-essential services and used this list to mandate business, government, and nonprofit closures. In total 13 states developed their own “non-essential” lists along with their stay-at-home mandates. In six states (AR, IA, NE, ND, OK, WY), closures or reduced activities of non-essential services were ordered along with stay-at-home *recommendations* (but *not* mandates). And in two states (UT, SD) similar orders were made by regional governments³. A patchwork of rules regarding business closures emerged across the states⁴. Policy makers and researchers will be attempting to measure the effects of this pandemic on health, economic, and social outcomes for years to come, and an important component of these analyses will be an understanding of how policy responses regarding closure varied across the states. This study follows the designation of essential and non-essential industries in each state and summarizes them.

Methods

Our target variable was state governments’ designations of specific industries as essential, non-essential, or in-between. Essential industries were allowed to remain open; non-essential industries were required to close; in-between industries were allowed to open under restricted conditions.

First, we obtained information on state closure policies from national newspaper reviews, the US Chamber of Commerce webpage, city newspaper articles, and state governor orders and supporting state documents (see *Underlying data*⁵: Appendix). Information was obtained using Google searches. Closures were recorded up to April 8, 2020 at which time all states had made closure announcements, and several were even considering reopening.

Second, we selected the industries of interest. We focused on those industries whose closure elicited discussion regarding closure orders; our sources were newspaper and broadcasting reports on essential/non-essential designations (see *Underlying data*⁵: Appendix for key references).

Third, we obtained data on closure policies by state and industry. We used Google searches to identify state closure policies in regional and national newspaper and broadcasters’ web articles, on trade publications and websites of trade associations and on state orders. We primarily used these search terms: COVID-19, essential, mandate, closures and industry name/business line (e.g., florists) (for key references by industry see *Underlying data*⁵: Appendix).

Non-essential services were classified into five groups, based on 6,7. These groups were: retail services, personal services (mostly one-on-one close contact, like nail salons), crowded areas (inside or outside), suppliers who provided personal services in crowded venues (e.g. restaurants and bars, schools, and child care centers), and upstream suppliers of non-essential services (e.g. plastic chip makers for casinos).

As the time the orders were issued varied by state, the governors’ proclaimed date (see *Underlying data*⁵) was used as the closure date. Generally, those governors who did so had acted by the end of the first week of April 2020. In a few states mentioned above closure policies were introduced by individual counties or cities, but a general state trend could be identified.

Closure policies for each industry were divided into three groups – open (green in Figure 1), open but with restrictions (orange), or closed (red). The bars containing all three outcomes sum up to 50 (states) except in states where policies could not be classified.

Results

In the **retail business category** 46 states deemed gun shops to be essential businesses. Closure orders were introduced but were being contested in the four other states. Greenhouses and garden centers were mostly considered as essential because of their relation to agriculture and food, although several states only allowed them to open under restricted conditions. Florists tried to be considered as part of this agricultural group, but in 33 of 42 states they were only allowed to remain open under restrictions; in these cases curbside pickups or home delivery were the main form of consumer contact. The upstream flower business, with its ephemeral production time was adversely affected as well.

In the **personal services** category, barber shops, hairdressers and nail salons were deemed to be non-essential in all states. After some controversy, all states deemed abortion clinics to provide essential services; however, in two states abortion clinics were required to operate with restrictions.

In the **crowded venue** category, state parks were allowed to be fully open in four states, and in 11 states attendance was restricted to daytime visitors. Golf courses remained open in 38 states, restricted in 4, and closed in 8. In four states, churches were allowed to remain open. In the remaining states they had to find other methods of communicating with parishioners.

In the category that combines **personal services and crowding**, gyms and health clubs were required to close in all states. In 38 states, hotels and motels were allowed to remain open, although there were restrictions, including limitations on meals and drinks served in common areas on the premises. Restaurants were closed to dining-in in 49 states, although in all states they were allowed to provide meals for pickup or delivery.

Figure 1. State COVID19 service closure policies in the US, early April 2020.

Schools were closed in all states, but a few reopened under local school board authorities. Of the 45 states, where definitive information on childcare center policies could be obtained, complete closure was ordered in only one state. Centers remained open in 21 states. In the remaining 23 states where information could be obtained, the centers were allowed to remain open under restricted conditions: in ten of these states the number of children had to be less than 11, and in the other 13 states the centers could only take in children whose parents worked in essential industries.

The fifth category involves **upstream producers**. This category includes suppliers to non-essential service providers (e.g., flower growers for florists or producers of poker chips for casinos). CISA listed construction as an essential industry and many states have included light construction in the list of essential services. However, three states (MI, NY, NJ) adopted

a stricter interpretation of essential construction; they excluded construction related to non-essential services. Also 40 states have included all construction as essential. In seven states the interpretation of “essential” for construction was more limited.

Discussion

Closure policies have had a considerable impact on unemployment^{8,9}. In a few industries (florists, state parks, golf courses) state government policies varied widely, but in most cases the results show general agreement between states. Compromises between complete closures and unrestricted openings occurred in a few industries (curbside delivery for restaurants and florists), although direct as well as upstream economic damage still occurred^{10–12}. Even in cases where there was widespread agreement about what is “essential” (abortion, gun shops, churches), there were controversies and court challenges^{13–15}.

In a few industries, the sum of state orders was less than 50. In these states, industry sources and/or governments themselves could not determine whether an order pertained to a specific group (e.g., florists as an agricultural or retail industry)¹⁶, and in some cases there was disagreement between governments within states, as when regional governments issued their own orders in addition to state-wide orders¹⁷ or instead of them^{18,19}.

This paper identified state closure policies. In many states and industries, even when there were no closure orders, retail and service business still closed²⁰. Thus the state policies do not fully reflect all business closures.

Implications for policy and practice

- Closure of non-essential industries was a key state and local policy in the U.S.
- Closure of an industry has important implications for owner investment, employment and consumption

- There was agreement among the states for most industries, but strong disagreement for several, including golf courses and childcare centers

Data availability

Underlying data

University of Alberta Dataverse: COVID19 state closures by industry, <https://doi.org/10.7939/DVN/YEDHP8>⁵.

This project contains the following underlying data:

- A list of data sources (Appendix)
- A spreadsheet of the status of the non-essential business for all 50 states as of April 8, 2020

Data are available under the terms of the [Creative Commons Zero “No rights reserved” data waiver](#) (CC0 1.0 Public domain dedication).

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Open Peer Review

Current Peer Review Status: ? ✓

Version 1

Reviewer Report 17 August 2020

<https://doi.org/10.5256/f1000research.27808.r68020>

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Ceri J. Phillips

College of Human and Health Sciences, Swansea University, Swansea, UK

A brief, descriptive analysis of closure policies across the US, in relation to designation of industries as essential, non-essential and those categorised as in-between.

The report provides a useful baseline of policies with which to subsequently assess the impact over time of the Covid-19 pandemic - in health, economic and social terms.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Health economics

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 13 August 2020

<https://doi.org/10.5256/f1000research.27808.r68022>

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Clara Dismuke-Greer

Health Economics Resource Center (HERC), Palo Alto VA Healthcare System, Palo Alto, CA, USA

The manuscript is extremely important during this time of COVID and state and local policies on closures. While the figure is very nice and informative, I would very much like to see the underlying data provided in a table. This would help also with citations for future work.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

Partly

If applicable, is the statistical analysis and its interpretation appropriate?

Partly

Are all the source data underlying the results available to ensure full reproducibility?

Partly

Are the conclusions drawn adequately supported by the results?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: I am a health economist with the US Department of Veterans Affairs

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 17 Aug 2020

Philip Jacobs, University of Alberta, Edmonton, Canada

We appreciate the reviewer's comments. The raw data by state is available in an Appendix to this article, published on Dataverse. The data can be obtained from this F1000 report, by going to the bottom of the page and downloading it from the Appendix called SERVICESBYSTATEXLM. It takes a bit of searching (I had to hunt for it myself) but it is there. Incidentally, all articles on F1000 do have data attached. It's a requirement for publication.

Thanks again.
Phil

Competing Interests: No competing interests.

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