

A simple *Science* Template

John Smith,^{1*} Jane Doe,¹ Joe Scientist²

¹Department of Chemistry, University of Wherever,
An Unknown Address, Wherever, ST 00000, USA

²Another Unknown Address, Palookaville, ST 99999, USA

*To whom correspondence should be addressed; E-mail: jsmith@wherever.edu.

February 24, 2021

Abstract

** Things to be edited: Remove any language associating a country's ownership of a variant. It comes off as accusatory. Change Dade figures to Miami-Dade and change South Africa to B.1.351 Maybe save any conclusive commentary for the conclusion. Leave the paragraphs after each section as pure 'results' analysis Holiday/Fatalities missing dallas and houston

Introduction. Explain why the study was necessary and explain what we looked at.

1 COVID-19 Vaccine Rollout and Administration

1.1 Vaccine Rollout, Administration and Cases

- 
- 1: 11-Dec-2020 - Pfizer-BioNTech Vaccine Authorized by FDA
 - 2: 18-Dec-2020 - Moderna Vaccine Authorized by FDA
 - 3: 16-Dec-2020 - 2.9 Million Pfizer Vaccines Shipped out Nationwide
 - 4: 31-Jan-2021 - Cumulative 29 Million Pfizer Vaccines Shipped out Nationwide
 - 5: 01-Feb-2021 - 17 Million Pfizer Vaccines Administered
 - 6: 14-Feb-2021 - 80-90% of first doses delivered have been administered

Figure 1

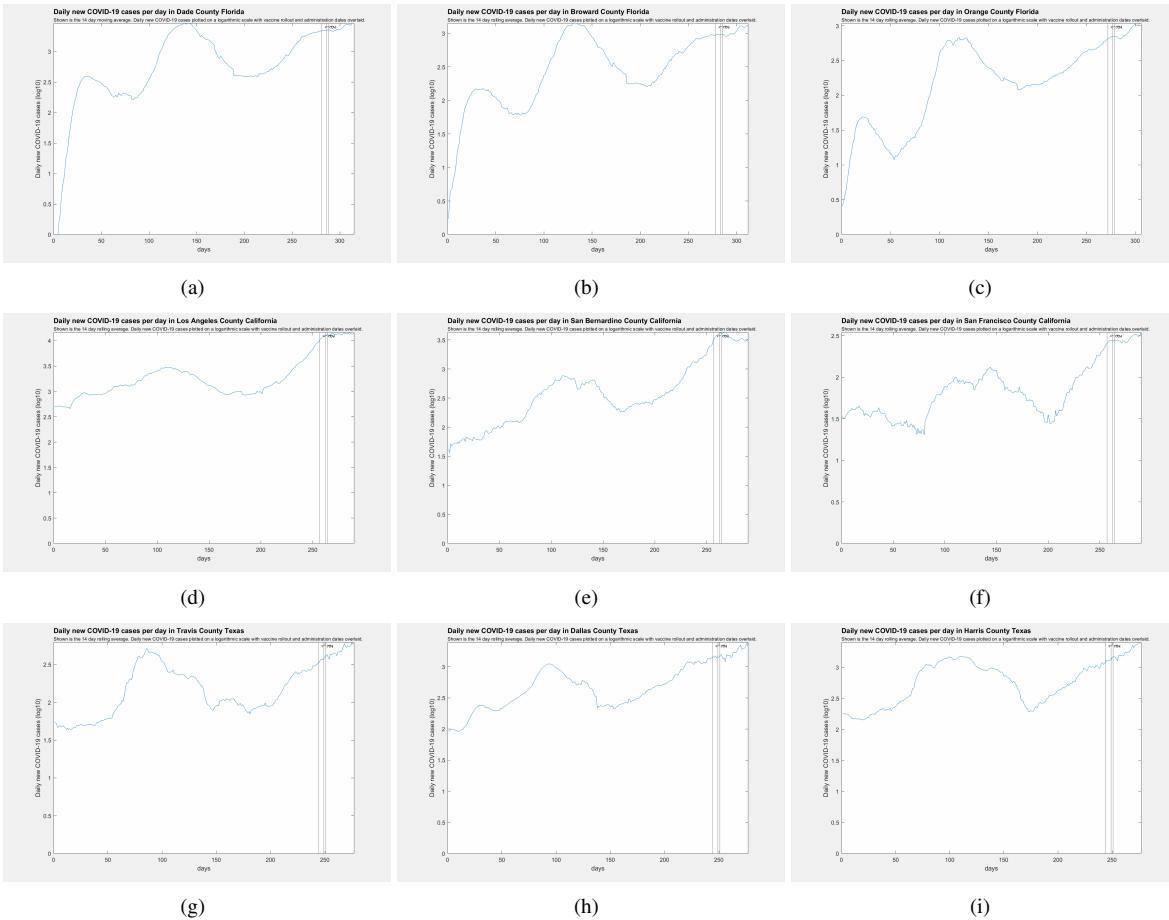


Figure 2: (a) blah (b) blah (c) blah (d) blah

1.2 Vaccine Rollout, Administration and Hospitalizations



Figure 3

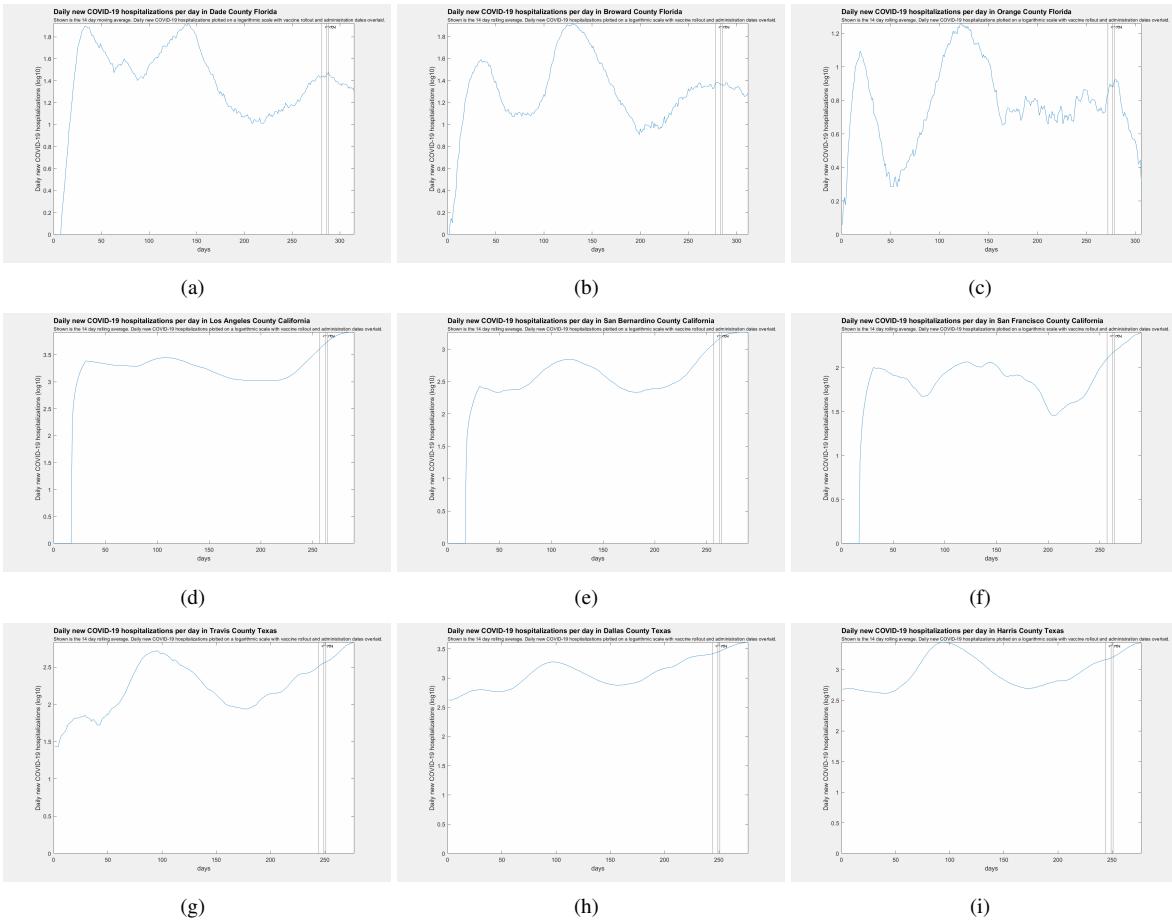


Figure 4: (a) blah (b) blah (c) blah (d) blah

1.3 Vaccine Rollout, Administration and Fatalities



Figure 5

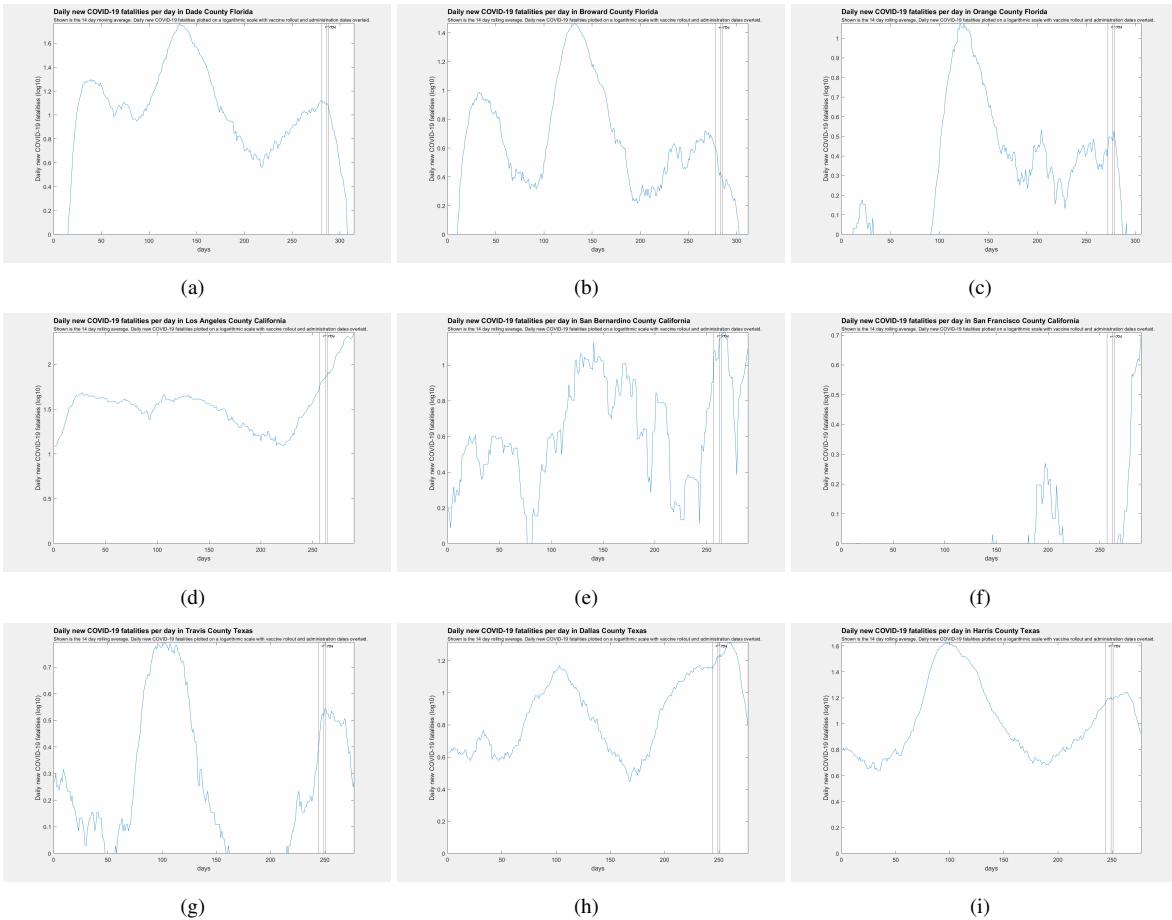


Figure 6: (a) blah (b) blah (c) blah (d) blah

1.4 Discussion of vaccine rollout and administration

2 George Floyd, Black Lives Matter, National Unrest

2.1 Black Lives Matter Events and COVID-19 Cases

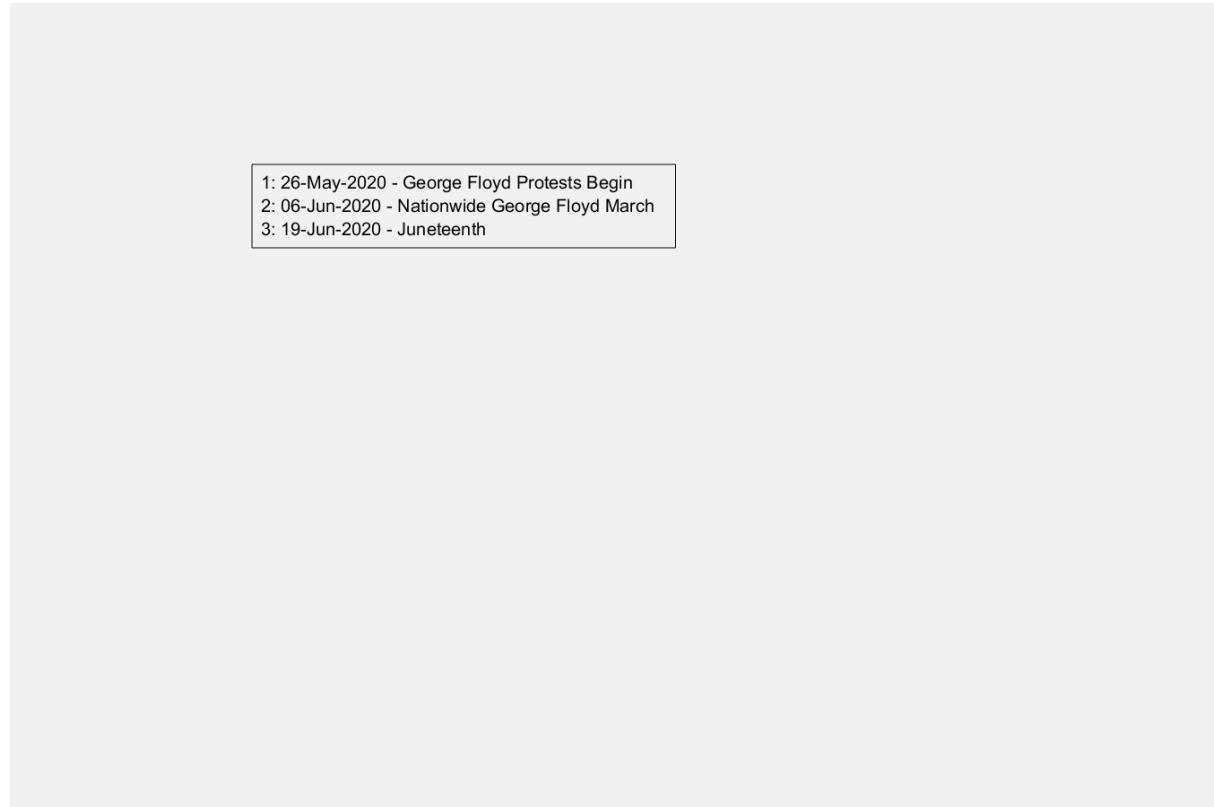


Figure 7

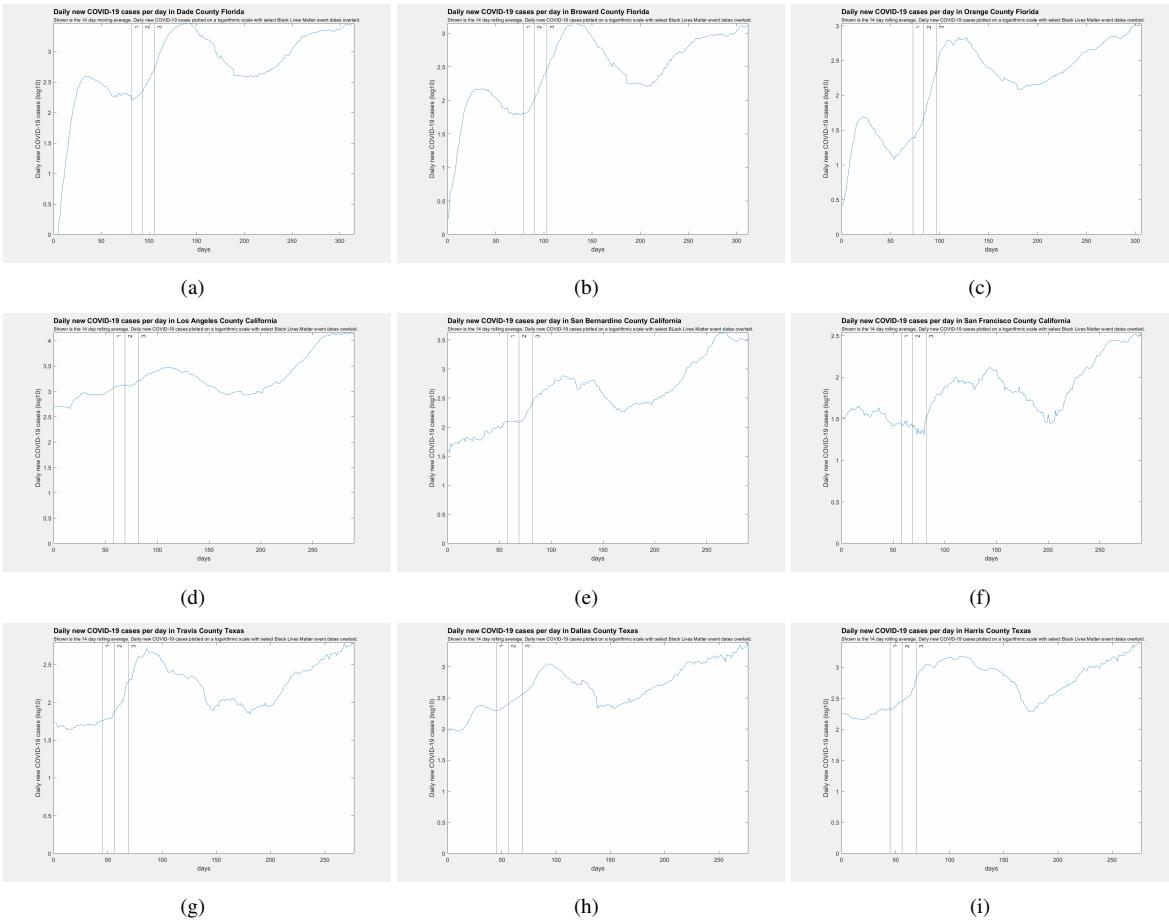


Figure 8: (a) blah (b) blah (c) blah (d) blah

2.2 Black Lives Matter Events and COVID-19 Hospitalizations

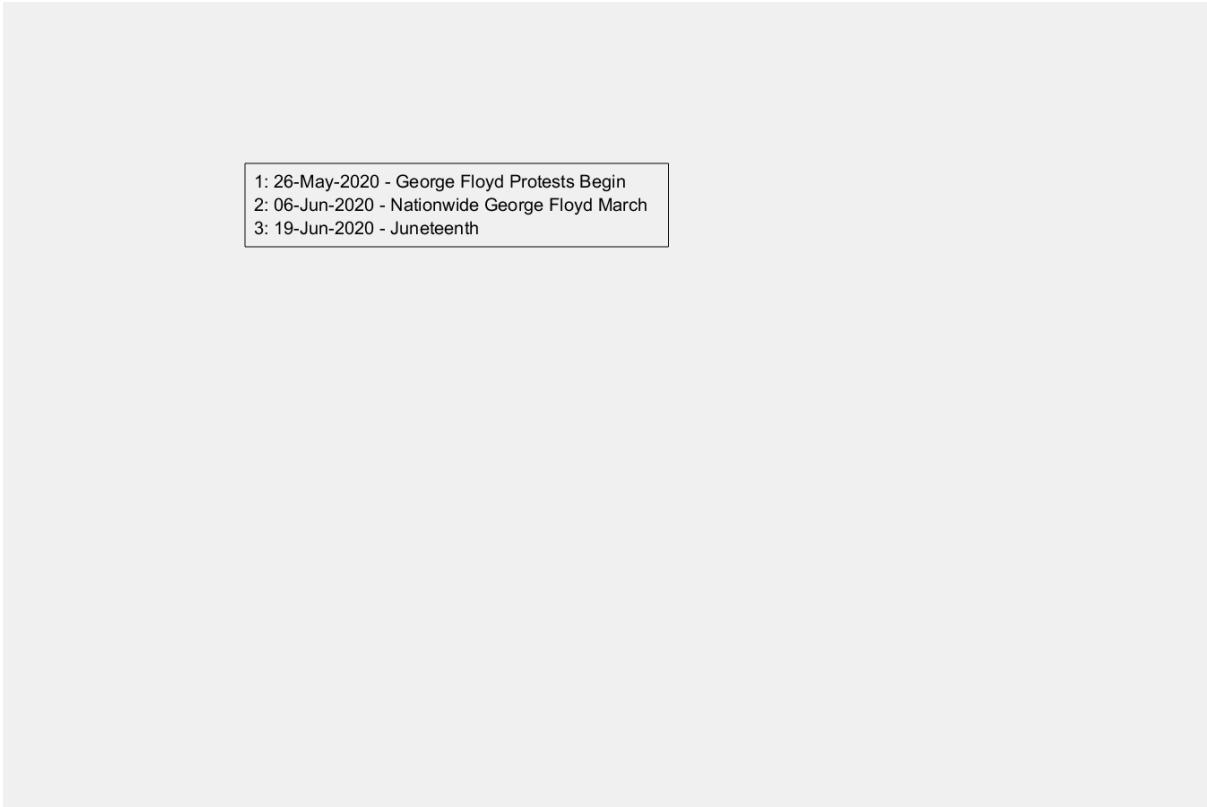


Figure 9

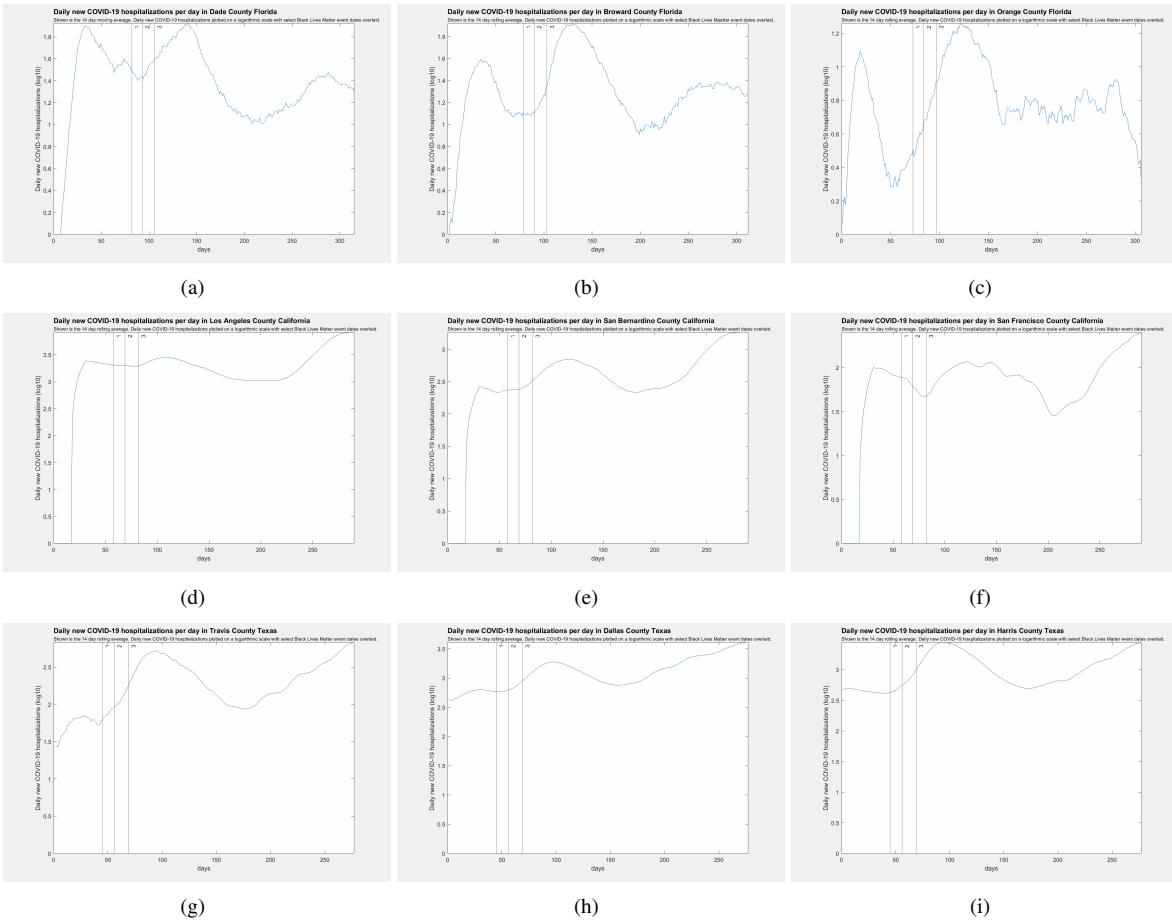


Figure 10: (a) blah (b) blah (c) blah (d) blah

2.3 Black Lives Matter Events and COVID-19 Fatalities



Figure 11

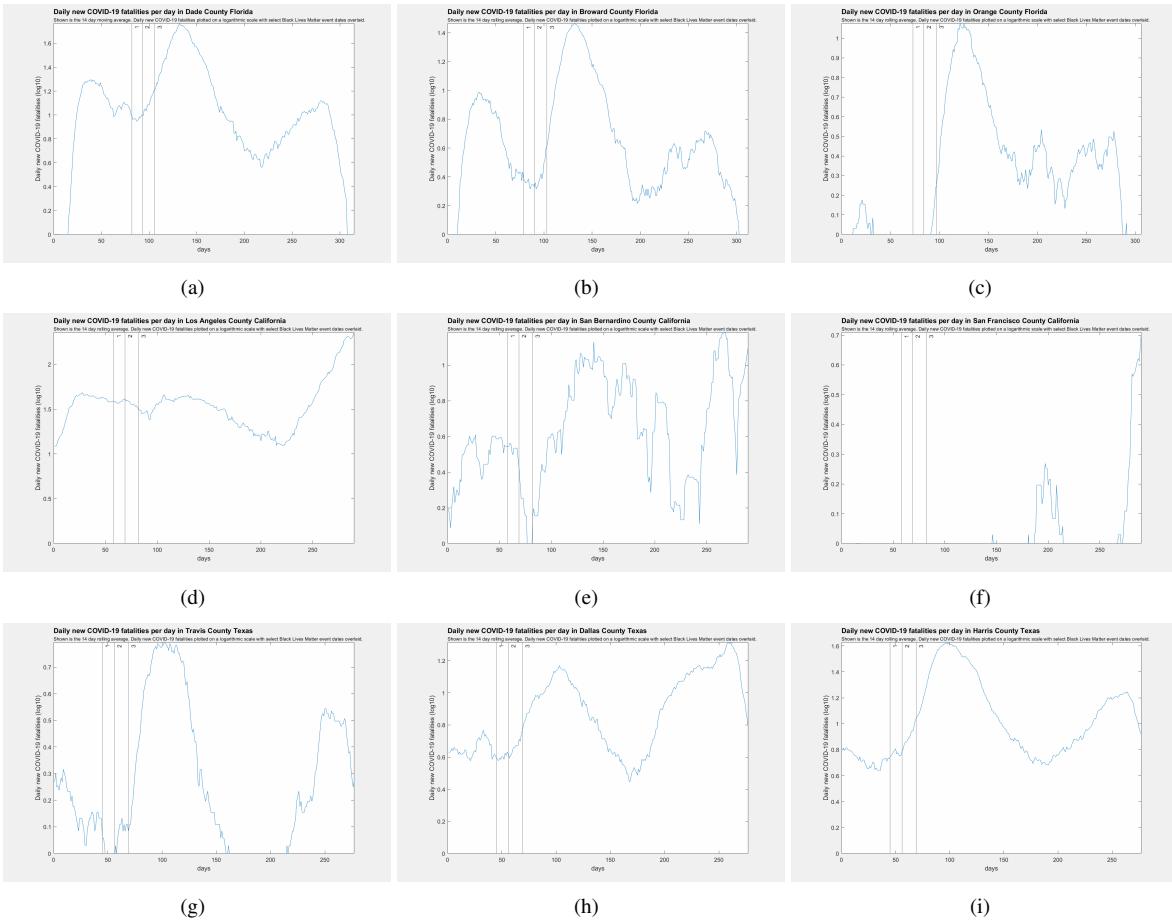


Figure 12: (a) blah (b) blah (c) blah (d) blah

2.4 Black Lives Matter and COVID-19

3 The Impact of Virulent COVID-19 Variant Strains

In figures 2-6, the 14 day moving average of daily new COVID-19 cases, hospitalizations, and fatalities per day in 9 counties are displayed on a logarithmic scale (\log_{10}) with vertical line overlays representing the dates when five sophisticated COVID-19 variant strains were first detected in their respective population. The counties assessed are Miami-Dade County, Florida; Broward County, Florida; Orange County, Florida; Los Angeles County, California; San Bernardino County, California; San Francisco County, California; Travis County, Texas; Dallas County, Texas; and Harris County, Texas. The genomic isolation dates of the COVID-19 variant strains in figures 2-10 are belonging to: CAL.20C (of lineage B.1.429), first isolated in California; B.1.1.207, first isolated in Nigeria; B.1.1.7 (aka VOC-202012/01, and as lineage B.1.1.7, or 20I/501Y.V1), first isolated in the United Kingdom; B.1.351 (aka 20H/501Y.V2, formerly known as 20C/501Y.V2), first isolated in South Africa; and P.1 (of lineage B.1.1.248), first isolated in Tokyo, and colloquially referred to as the Brazilian variant.

3.1 COVID-19 Variants and Daily New COVID-19 Cases

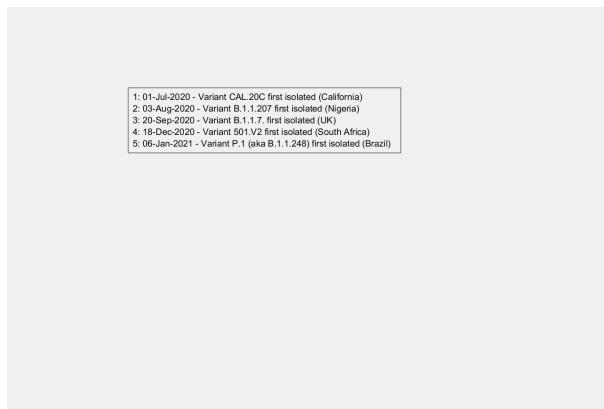


Figure 13: Listed above are five uniquely infectious variant strains of COVID-19, listed corresponding to the date in which they were first genetically sequenced and isolated in their respective region.

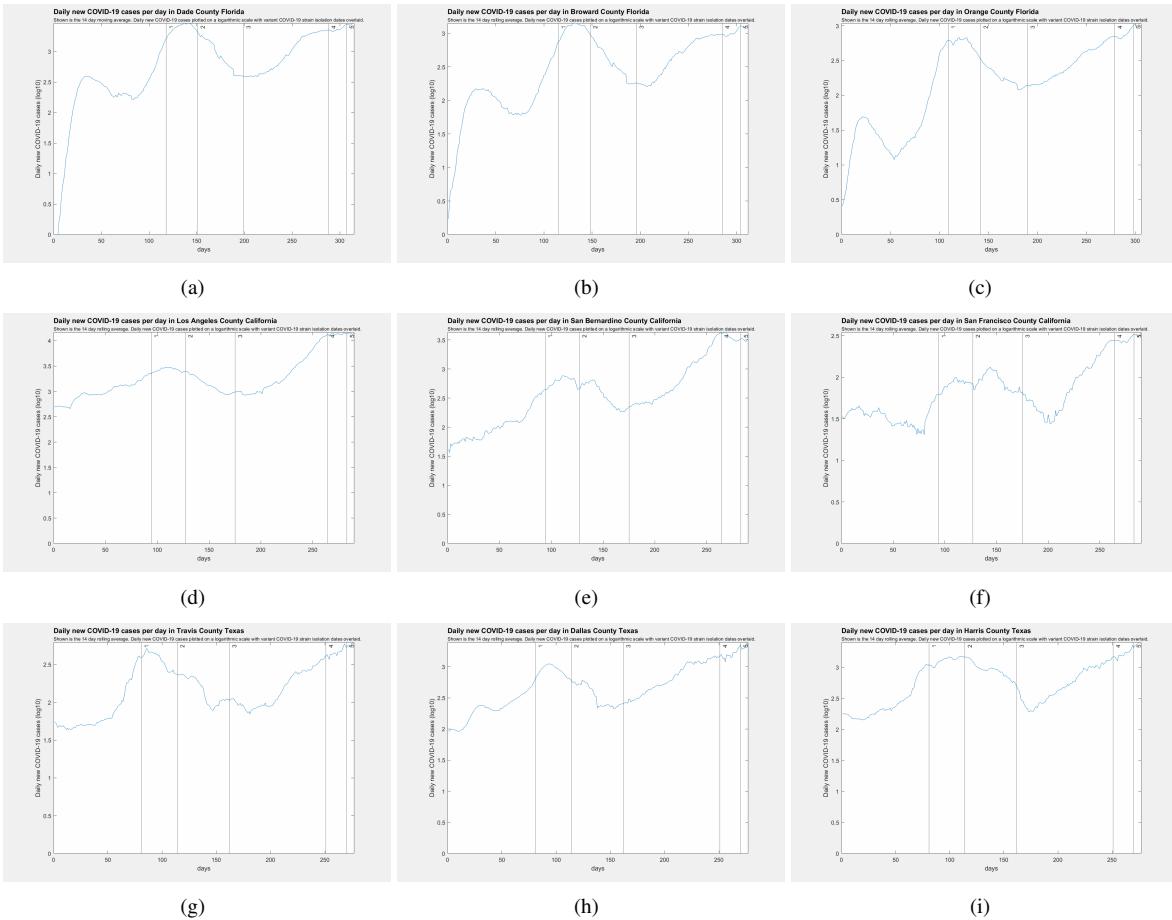


Figure 14: (a) blah (b) blah (c) blah (d) blah

3.2 COVID-19 Variants and Daily New COVID-19 Hospitalizations

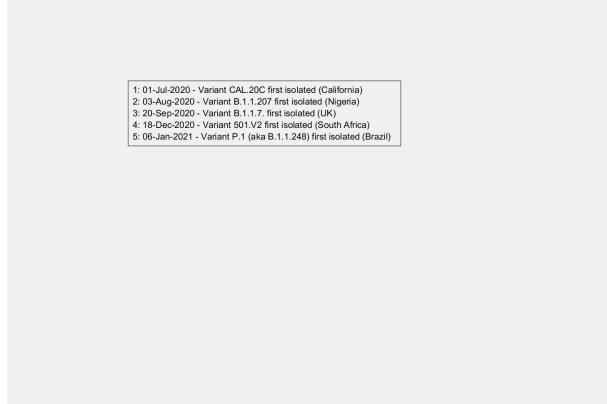


Figure 15: Listed above are five uniquely infectious variant strains of COVID-19, listed corresponding to the date in which they were first genetically sequenced and isolated in their respective region.

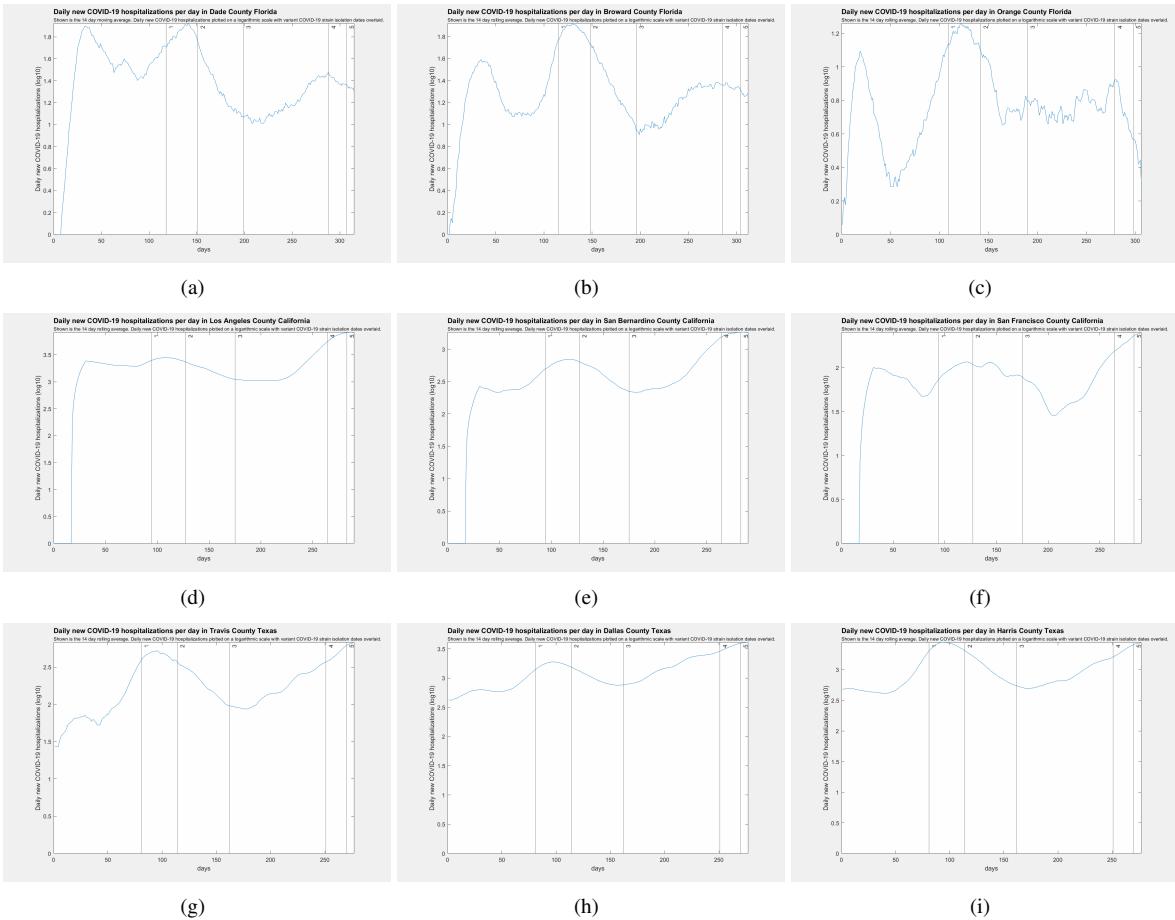


Figure 16: (a) blah (b) blah (c) blah (d) blah

3.3 COVID-19 Variants and Daily New COVID-19 Fatalities

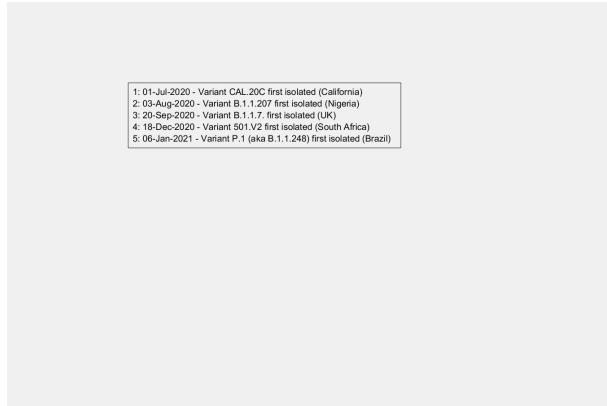


Figure 17: Listed above are five uniquely infectious variant strains of COVID-19, listed corresponding to the date in which they were first genetically sequenced and isolated in their respective region.

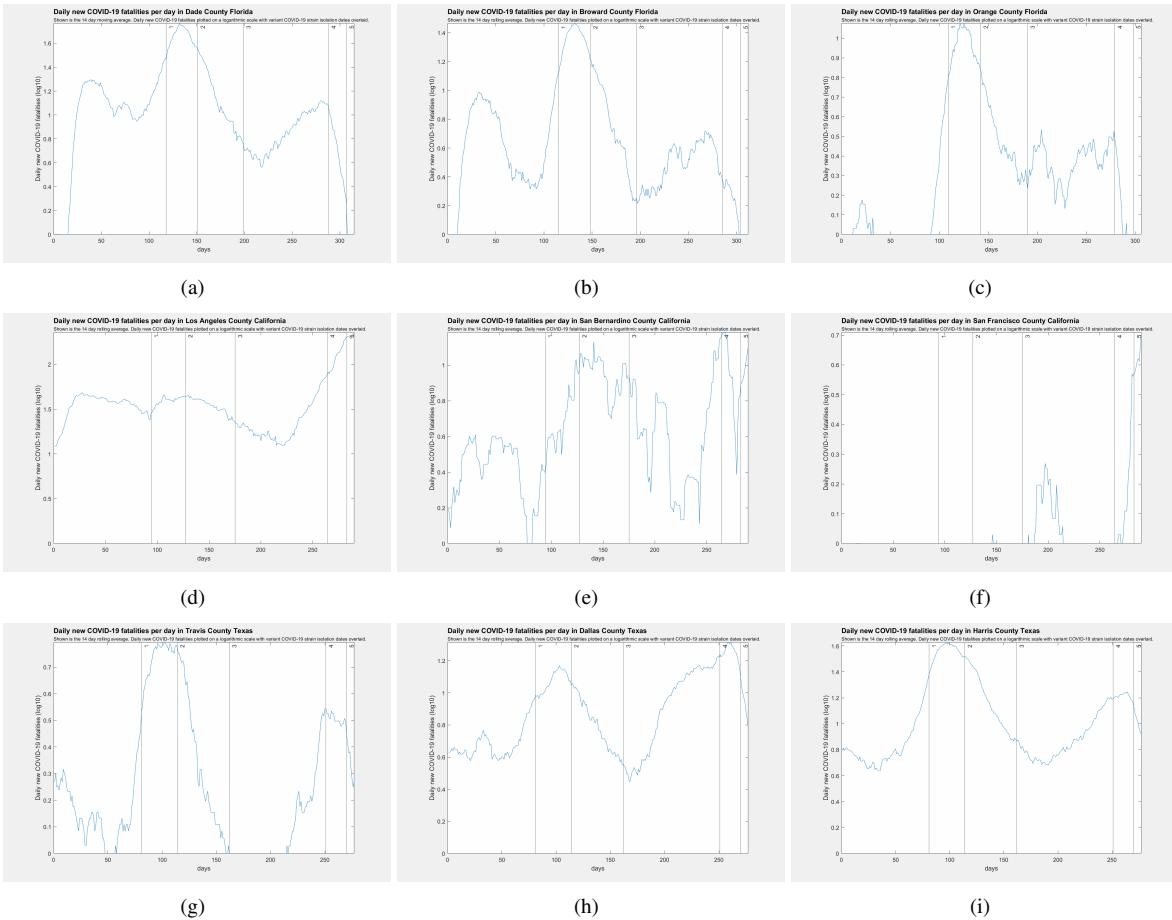


Figure 18: (a) blah (b) blah (c) blah (d) blah

3.4 County-Level Statistics on COVID-19 Variant Strains

3.5 The CAL.20C Variant

3.6 How CAL.20C Dominated

4 The Impact of National Holidays

In figures X-X, the 14 day moving average of daily new COVID-19 cases, hospitalizations and fatalities per day in 9 counties is displayed on a logarithmic scale (\log_{10}) with vertical line overlays representing the dates of several national and seasonal holidays have occurred. The counties assessed are Miami-Dade County, Florida; Broward County, Florida; Orange County, Florida; Los Angeles County, California; San Bernardino County, California; San Francisco County, California; Travis County, Texas; Dallas County, Texas; and Harris County, Texas.

4.1 Holidays and Daily New COVID-19 Cases



Figure 19

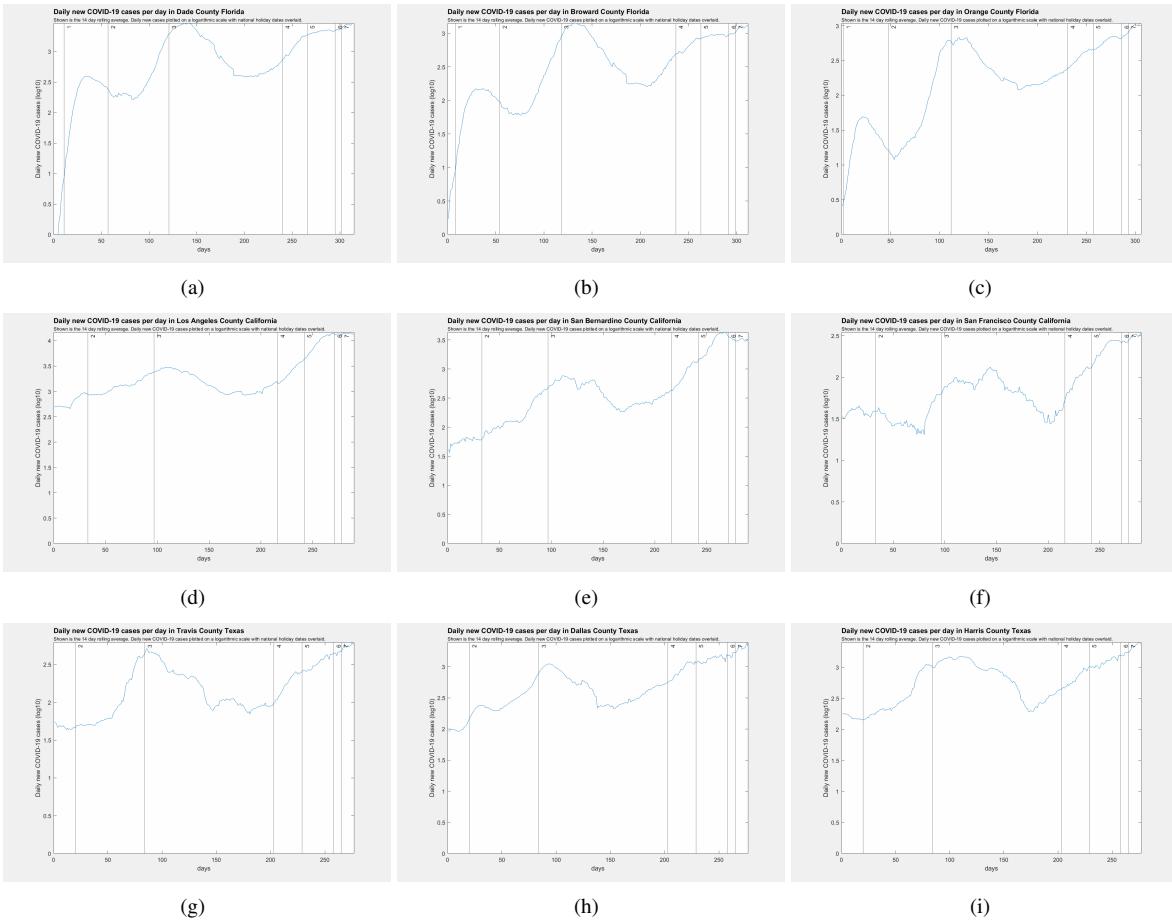


Figure 20: (a) blah (b) blah (c) blah (d) blah

4.2 Holidays and Daily New COVID-19 Hospitalizations



Figure 21

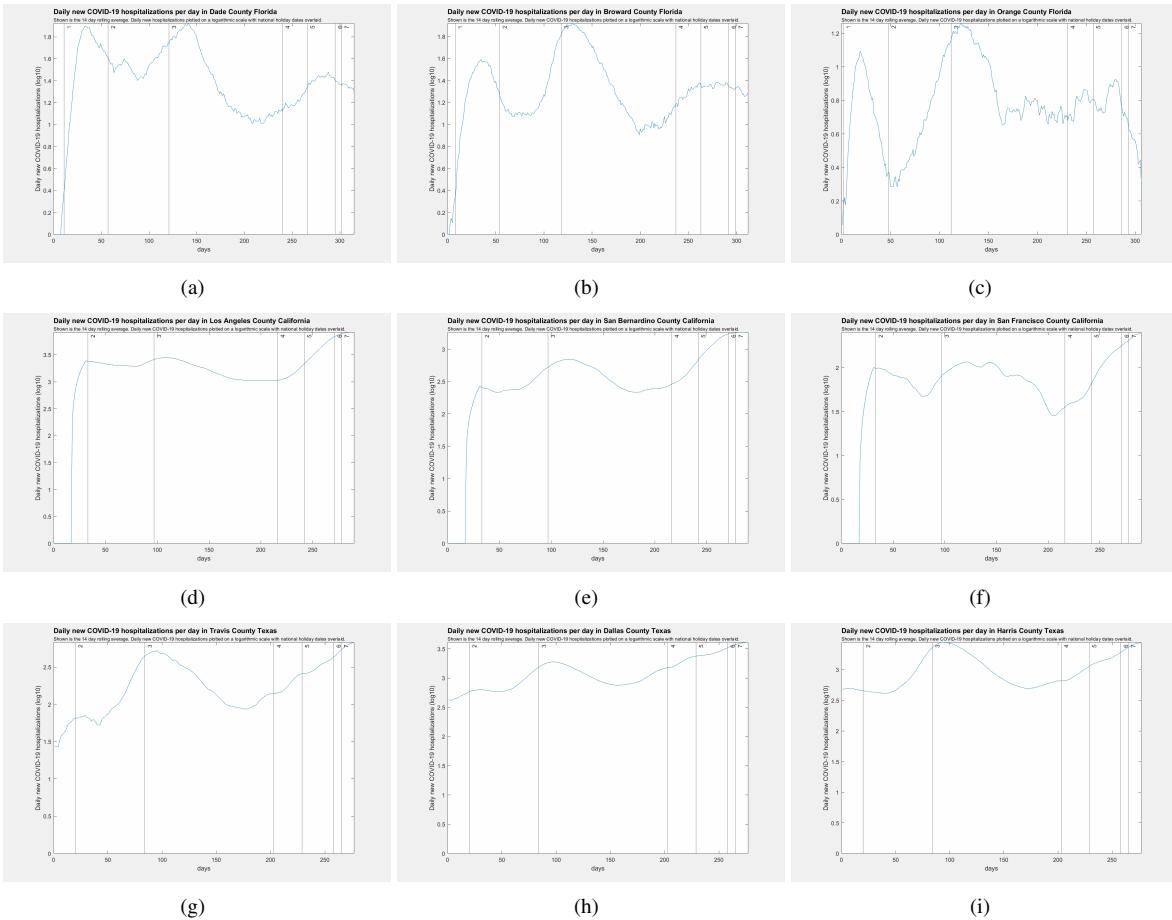


Figure 22: (a) blah (b) blah (c) blah (d) blah

4.3 Holidays and Daily New COVID-19 Fatalities



Figure 23

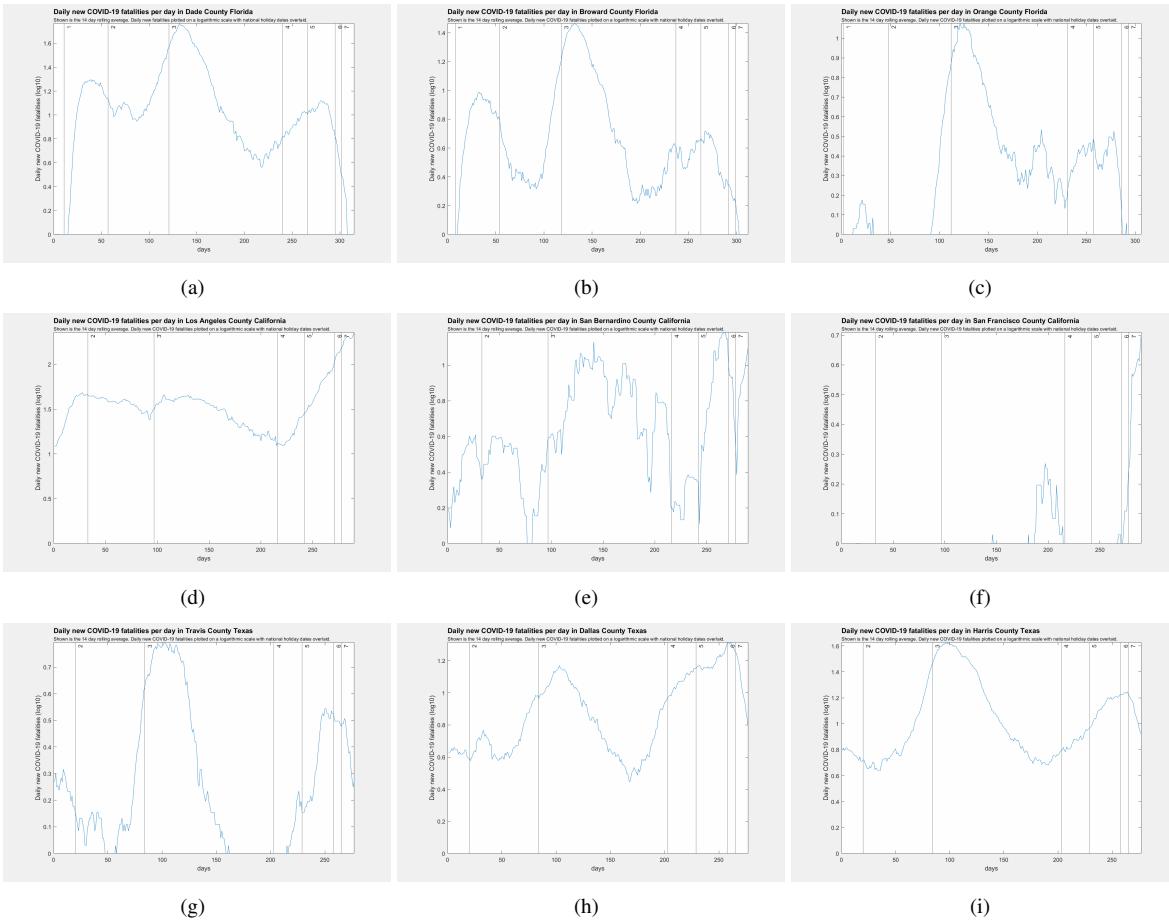


Figure 24: (a) blah (b) blah (c) blah (d) blah * add dallas and harris county here

4.4 County-Level Statistics on National Holidays and COVID-19

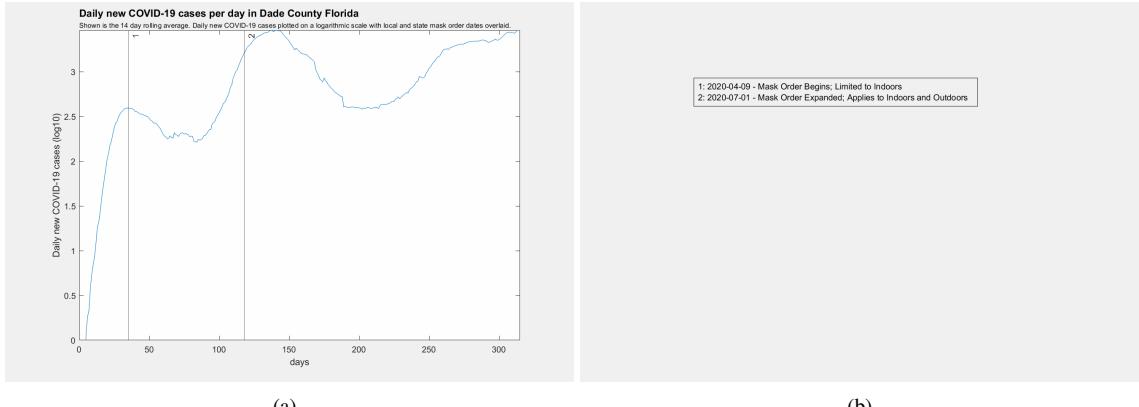
4.5 The Impact of a National Holiday

4.6 Subsection

5 Government Mask Order Mandates

In figures XX-XX, the 14 day moving average of daily new COVID-19 cases, hospitalizations, and fatalities per day in 9 counties is displayed on a logarithmic scale (\log_{10}) with vertical line overlays representing the dates in which local and state mask order dates were initiated. The counties assessed are Miami-Dade County, Florida; Broward County, Florida; Orange County, Florida; Los Angeles County, California; San Bernardino County, California; San Francisco County, California; Travis County, Texas; Dallas County, Texas; and Harris County, Texas.

5.1 Mask Order Mandates and Daily New COVID-19 Cases

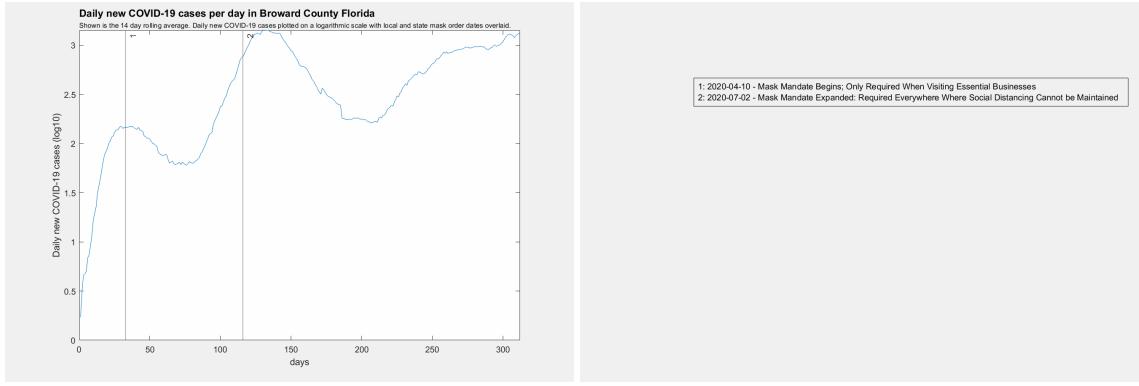


(a)

1: 2020-04-09 - Mask Order Begins; Limited to Indoors
2: 2020-07-01 - Mask Order Expanded; Applies to Indoors and Outdoors

(b)

Figure 25: (a) blah (b) blah

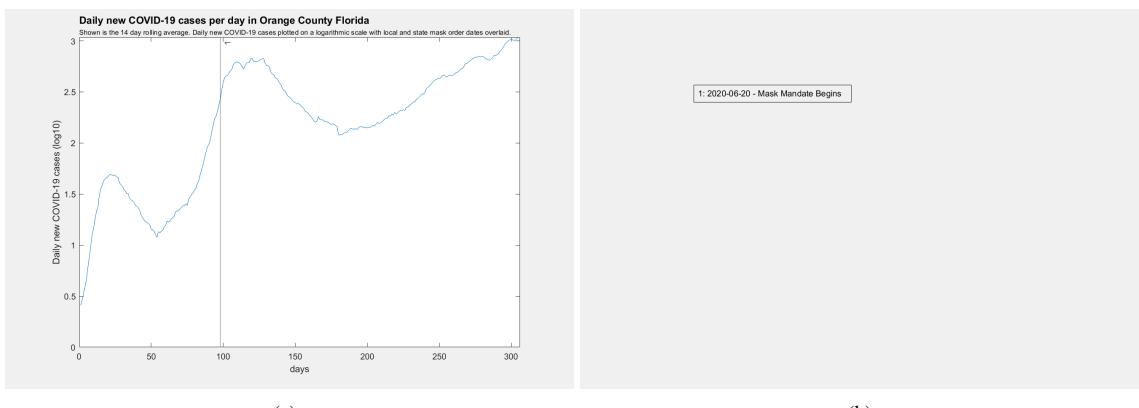


(a)

1: 2020-04-10 - Mask Mandate Begins; Only Required When Visiting Essential Businesses
2: 2020-07-02 - Mask Mandate Expanded; Required Everywhere Where Social Distancing Cannot be Maintained

(b)

Figure 26: (a) blah (b) blah

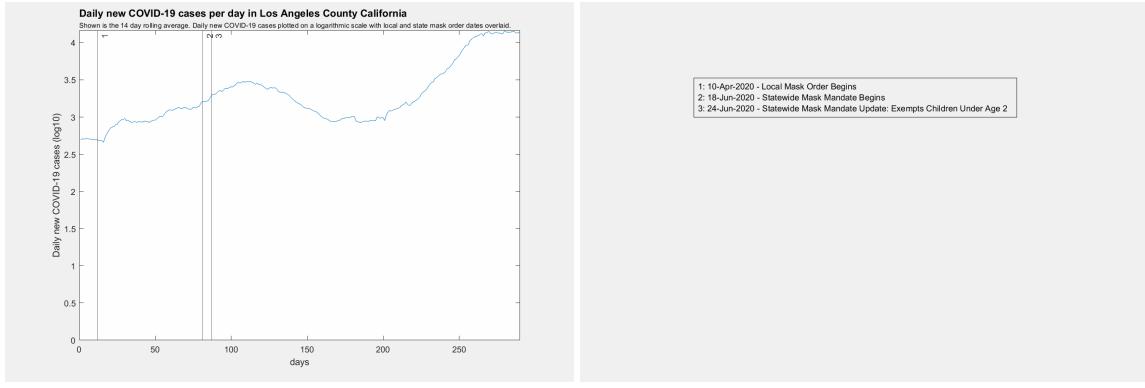


(a)

1: 2020-06-20 - Mask Mandate Begins

(b)

Figure 27: (a) blah (b) blah

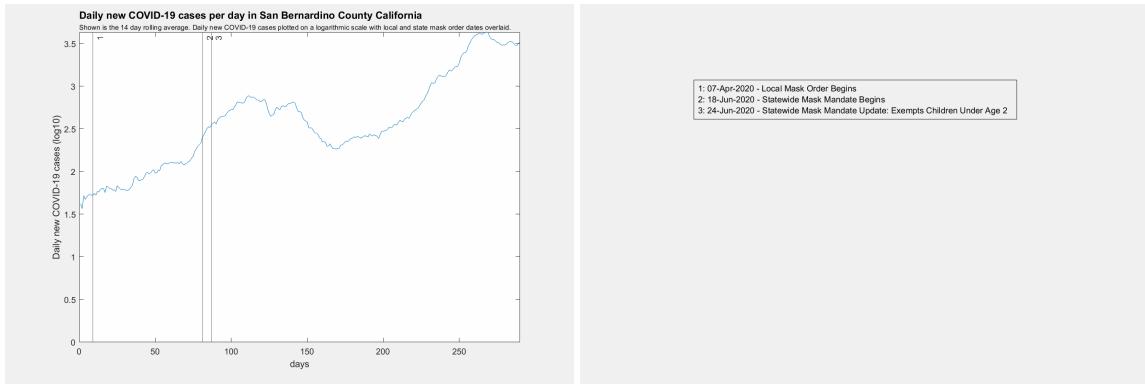


(a)

1: 10-Apr-2020 - Local Mask Order Begins
 2: 18-Jun-2020 - Statewide Mask Mandate Begins
 3: 24-Jun-2020 - Statewide Mask Mandate Update: Exempts Children Under Age 2

(b)

Figure 28: (a) blah (b) blah

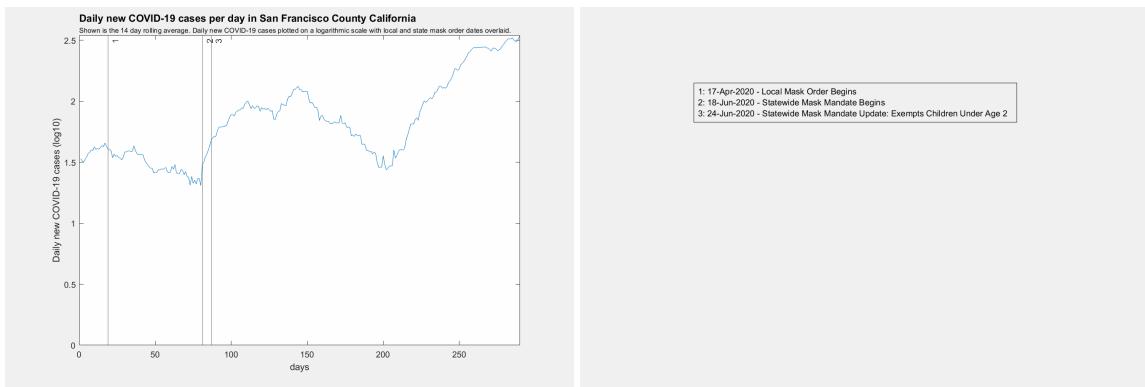


(a)

1: 07-Apr-2020 - Local Mask Order Begins
 2: 18-Jun-2020 - Statewide Mask Mandate Begins
 3: 24-Jun-2020 - Statewide Mask Mandate Update: Exempts Children Under Age 2

(b)

Figure 29: (a) blah (b) blah

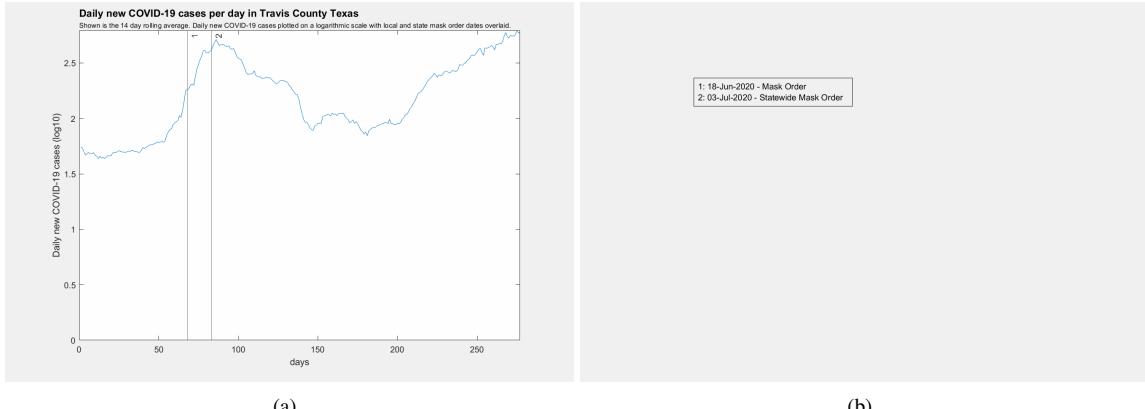


(a)

1: 17-Apr-2020 - Local Mask Order Begins
 2: 18-Jun-2020 - Statewide Mask Mandate Begins
 3: 24-Jun-2020 - Statewide Mask Mandate Update: Exempts Children Under Age 2

(b)

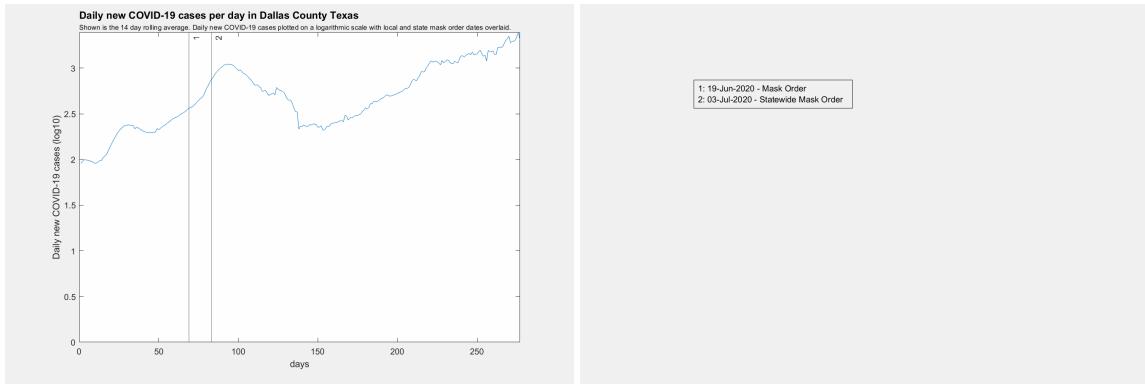
Figure 30: (a) blah (b) blah



(a)

(b)

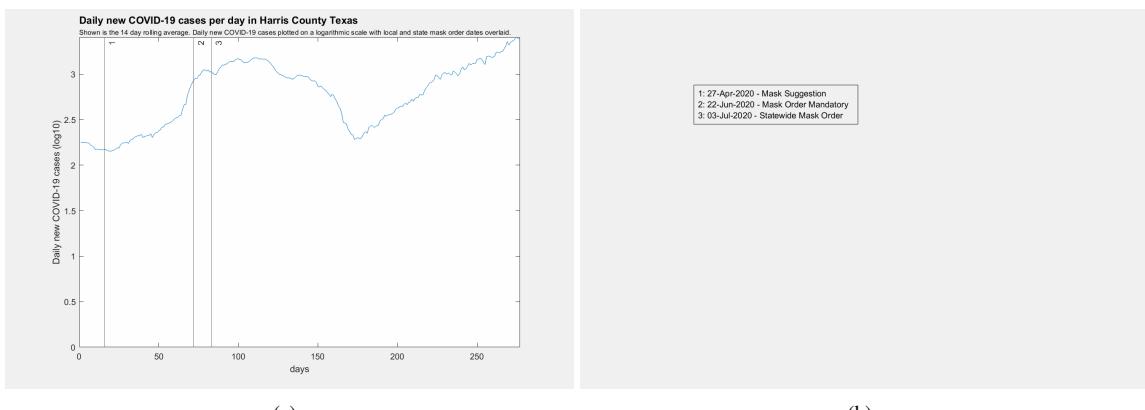
Figure 31: (a) blah (b) blah



(a)

(b)

Figure 32: (a) blah (b) blah

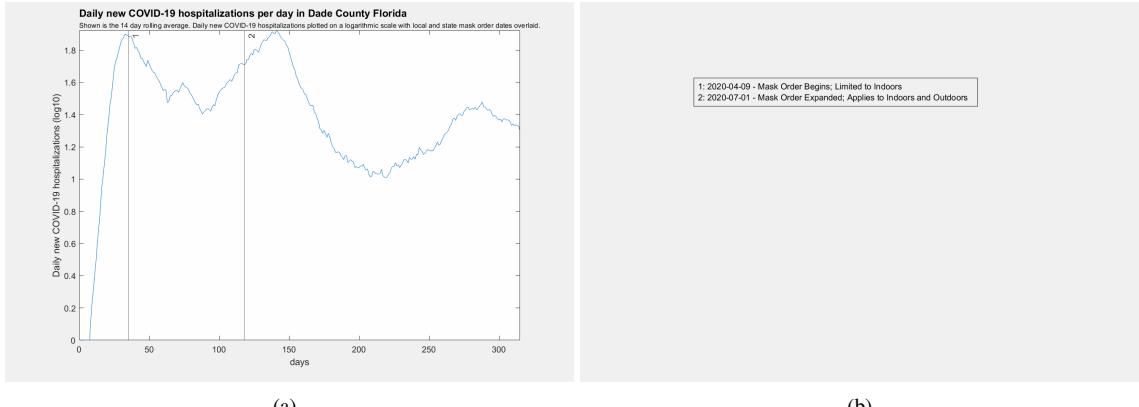


(a)

(b)

Figure 33: (a) blah (b) blah

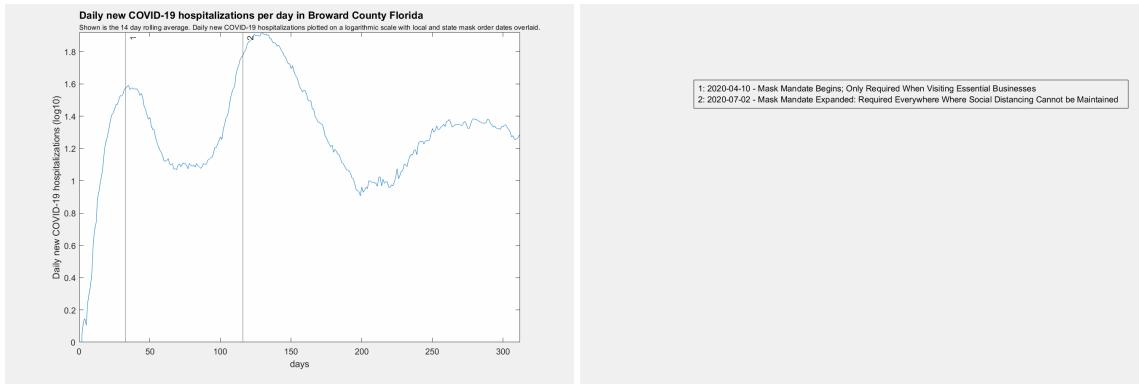
5.2 Mask Order Mandates and Daily New COVID-19 Hospitalizations



(a)

(b)

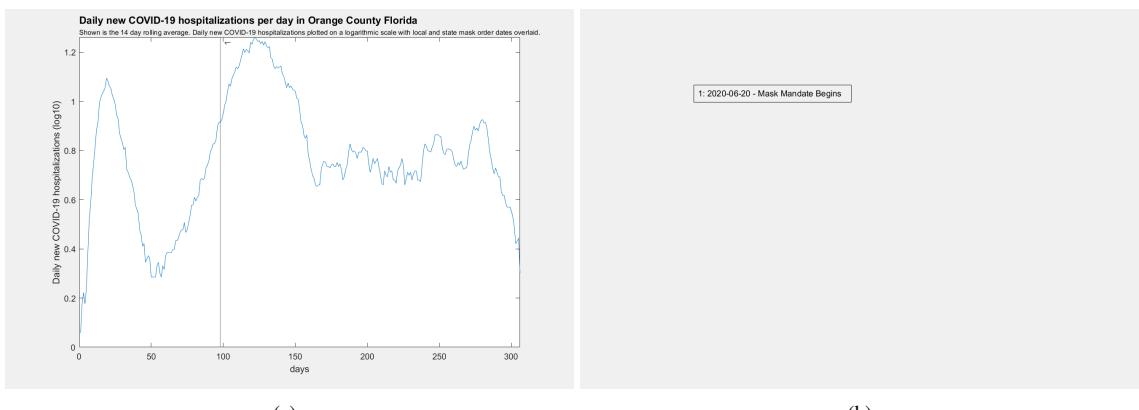
Figure 34: (a) blah (b) blah



(a)

(b)

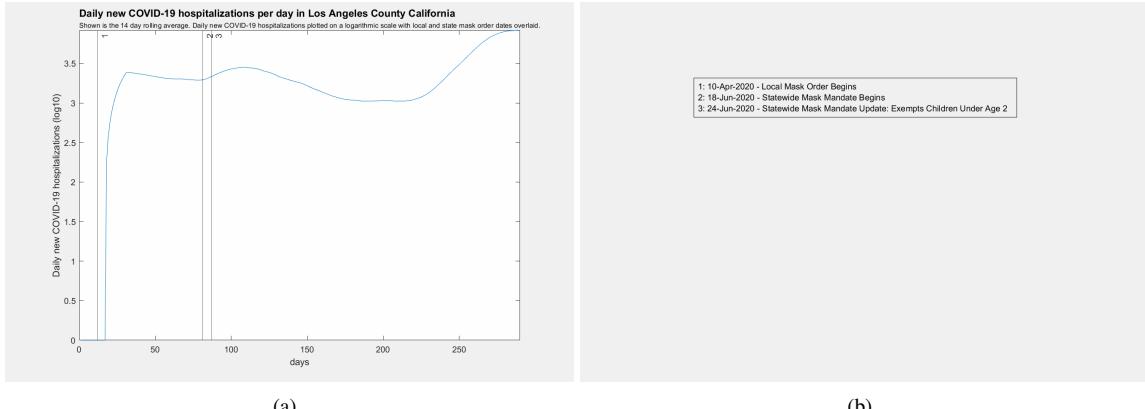
Figure 35: (a) blah (b) blah



(a)

(b)

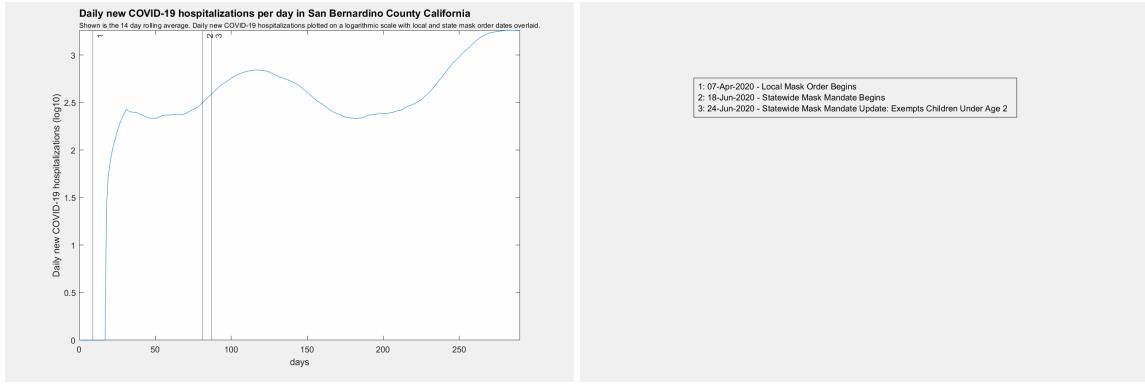
Figure 36: (a) blah (b) blah



(a)

(b)

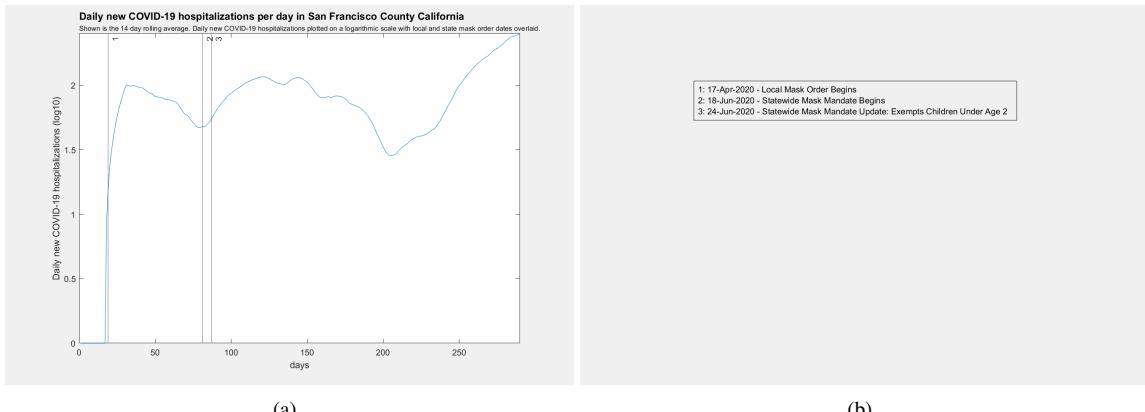
Figure 37: (a) blah (b) blah



(a)

(b)

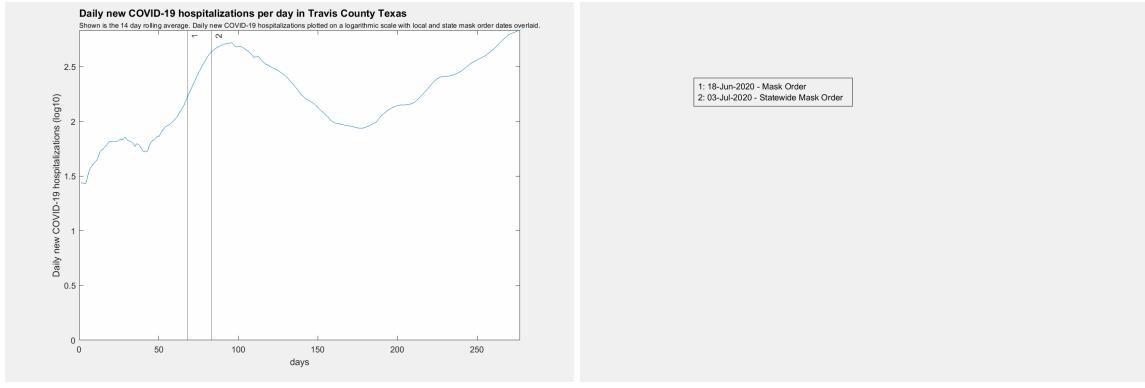
Figure 38: (a) blah (b) blah



(a)

(b)

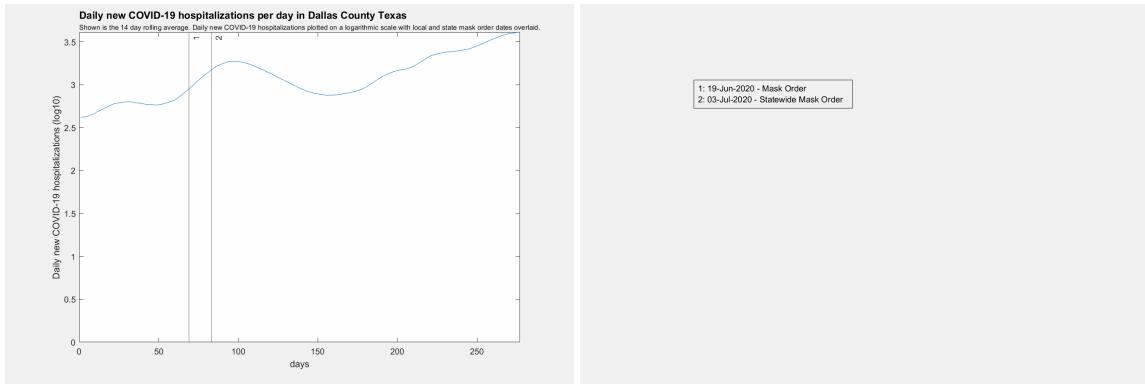
Figure 39: (a) blah (b) blah



(a)

(b)

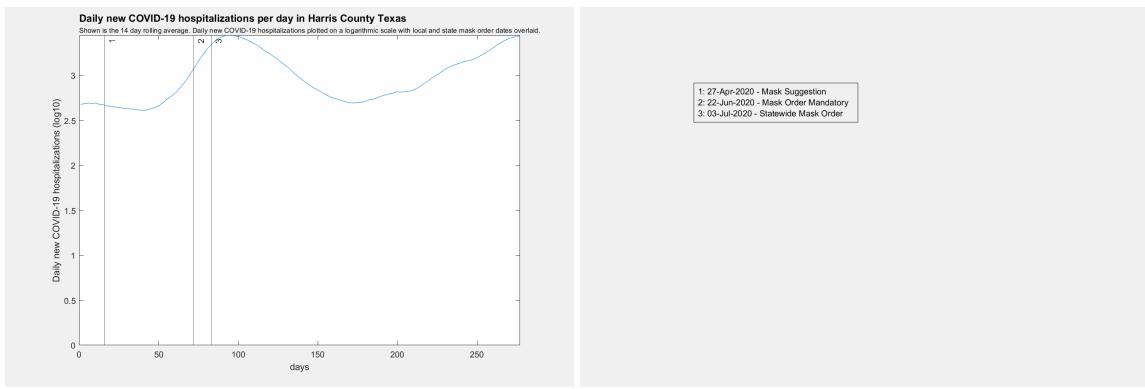
Figure 40: (a) blah (b) blah



(a)

(b)

Figure 41: (a) blah (b) blah

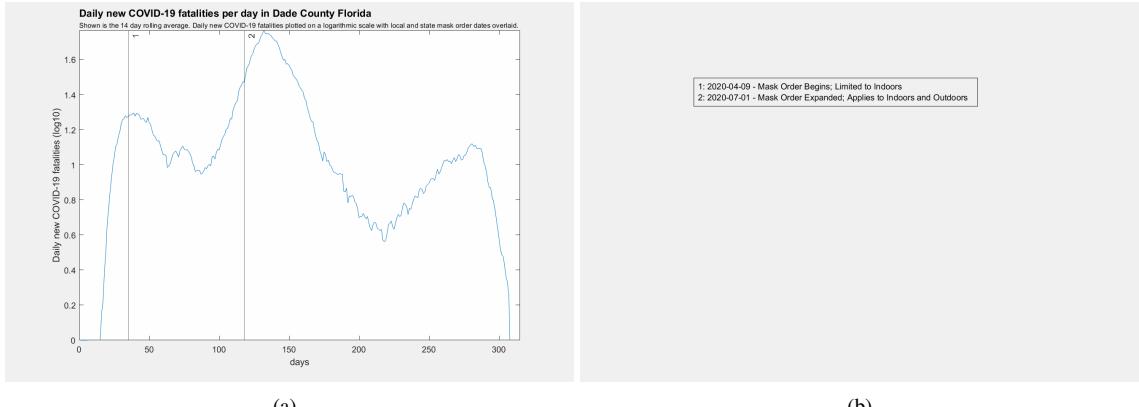


(a)

(b)

Figure 42: (a) blah (b) blah

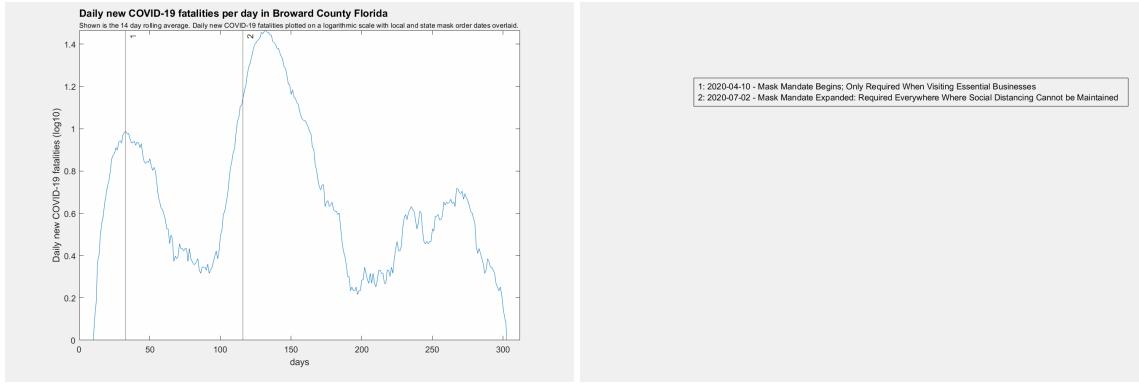
5.3 Mask Order Mandates and Daily New COVID-19 Cases



(a)

(b)

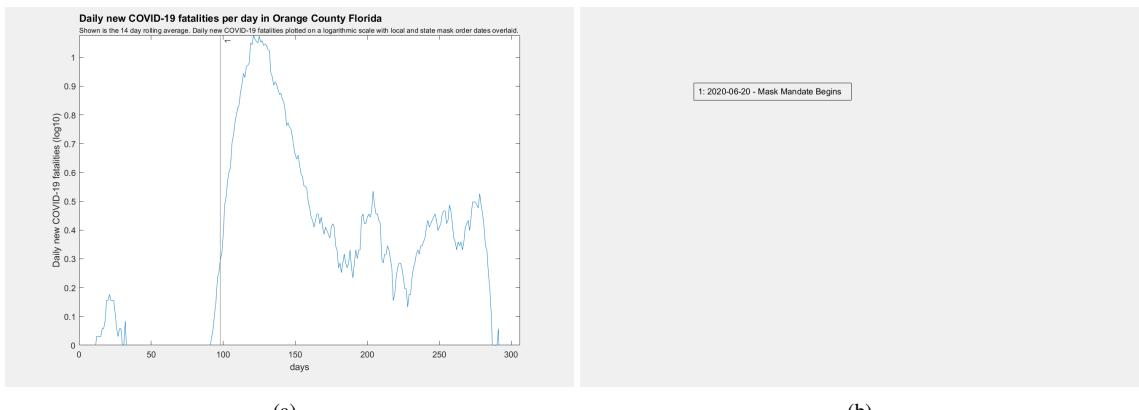
Figure 43: (a) blah (b) blah



(a)

(b)

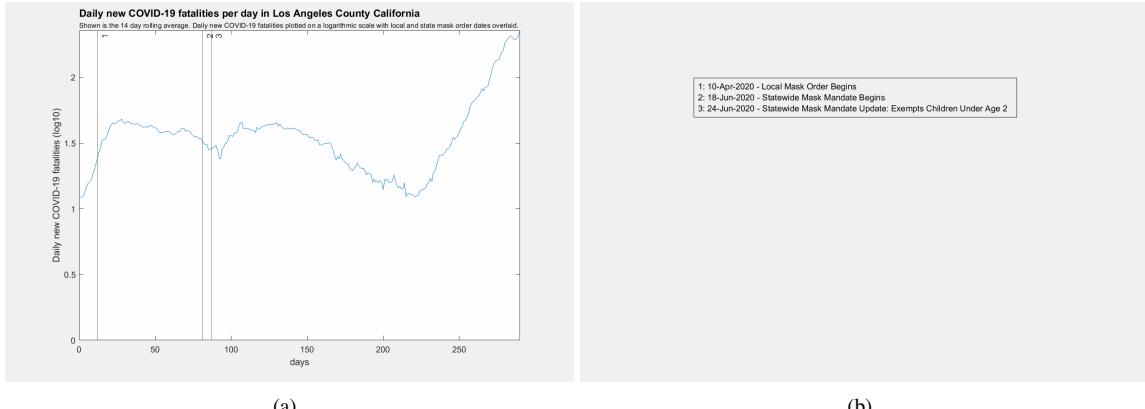
Figure 44: (a) blah (b) blah



(a)

(b)

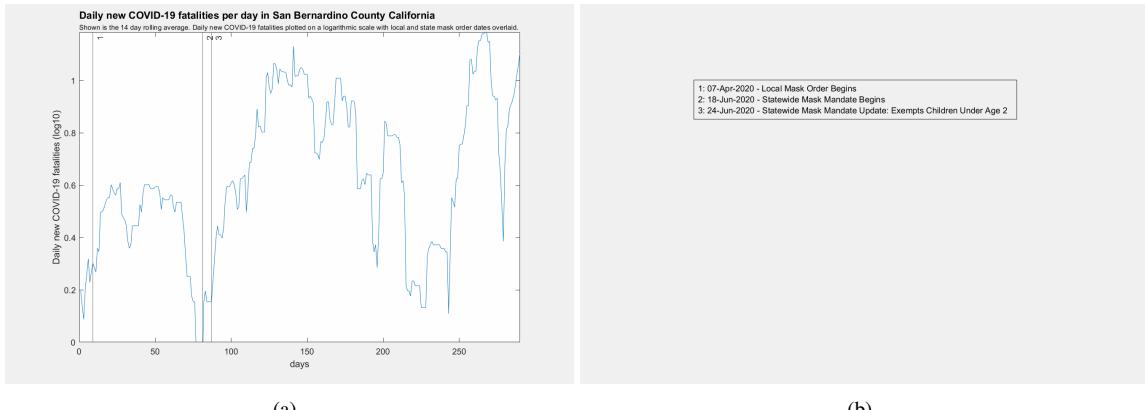
Figure 45: (a) blah (b) blah



1: 10-Apr-2020 - Local Mask Order Begins
2: 18-Jun-2020 - Statewide Mask Mandate Begins
3: 24-Jun-2020 - Statewide Mask Mandate Update: Exempts Children Under Age 2

(b)

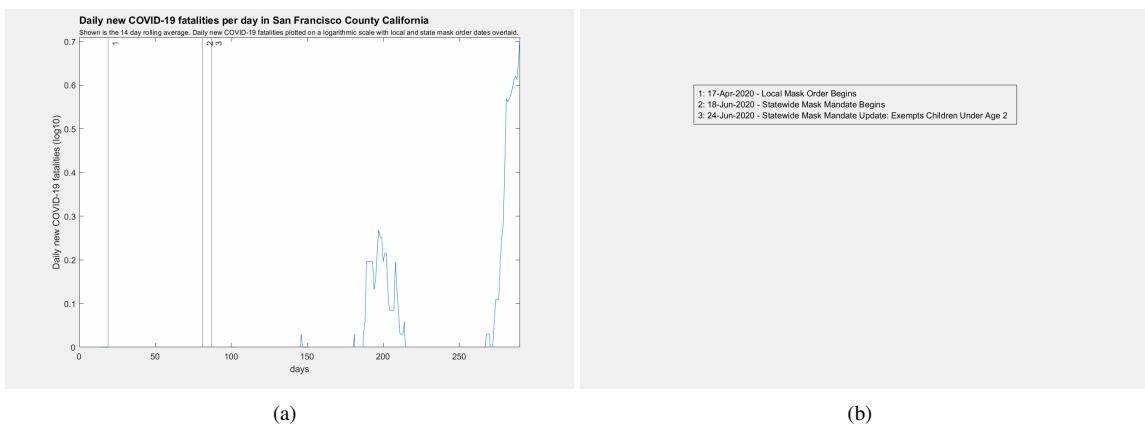
Figure 46: (a) blah (b) blah



1: 07-Apr-2020 - Local Mask Order Begins
2: 18-Jun-2020 - Statewide Mask Mandate Begins
3: 24-Jun-2020 - Statewide Mask Mandate Update: Exempts Children Under Age 2

(b)

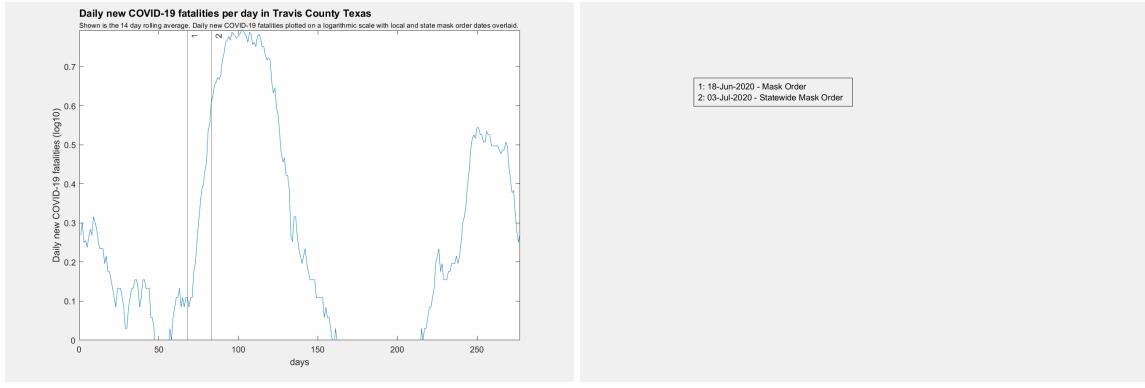
Figure 47: (a) blah (b) blah



1: 17-Apr-2020 - Local Mask Order Begins
2: 18-Jun-2020 - Statewide Mask Mandate Begins
3: 24-Jun-2020 - Statewide Mask Mandate Update: Exempts Children Under Age 2

(b)

Figure 48: (a) blah (b) blah

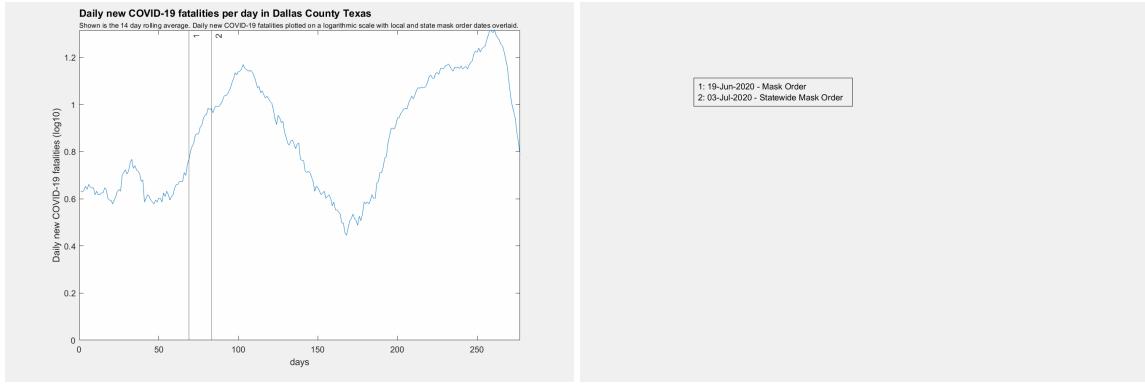


(a)

1: 18-Jun-2020 - Mask Order
2: 03-Jul-2020 - Statewide Mask Order

(b)

Figure 49: (a) blah (b) blah

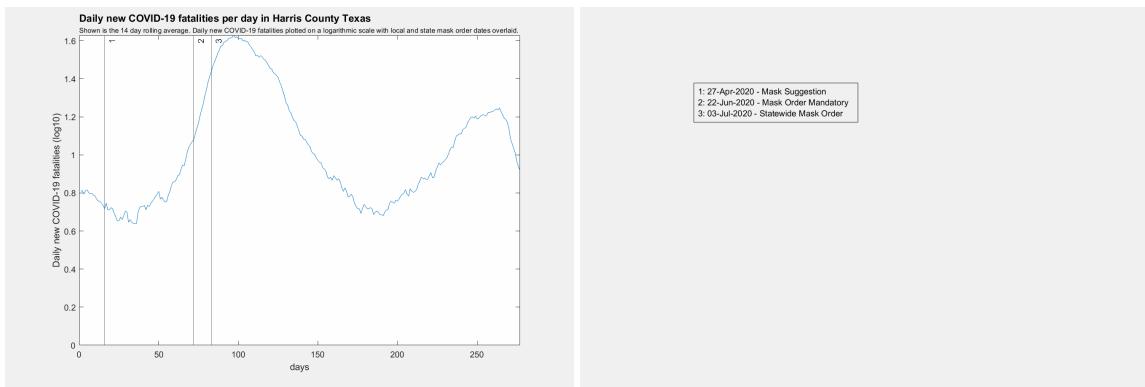


(a)

1: 19-Jun-2020 - Mask Order
2: 03-Jul-2020 - Statewide Mask Order

(b)

Figure 50: (a) blah (b) blah



(a)

1: 27-Apr-2020 - Mask Suggestion
2: 22-Jun-2020 - Mask Order Mandatory
3: 03-Jul-2020 - Statewide Mask Order

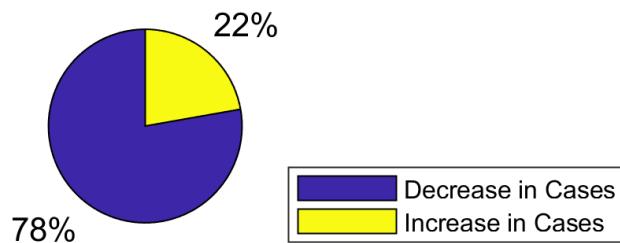
(b)

Figure 51: (a) blah (b) blah

5.4 County-Level Statistics on COVID-19 and Government Mask Orders

5.5 The Impact of a Mask Order on the Spread of COVID-19

COVID-19 Cases Per-Day After Local & State Mask Order Implementation



COVID-19 Hospitalizations Per-Day After Local & State Mask Order Implementation



COVID-19 Fatalities Per-Day After Mask Order Implementation

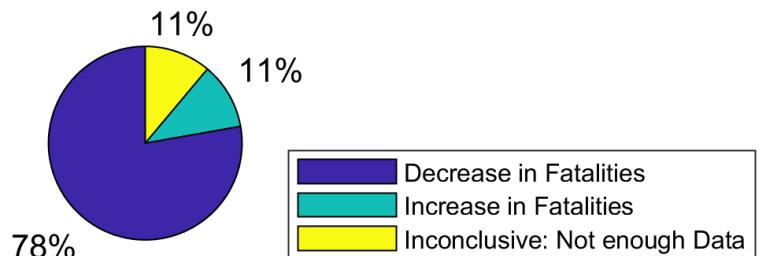
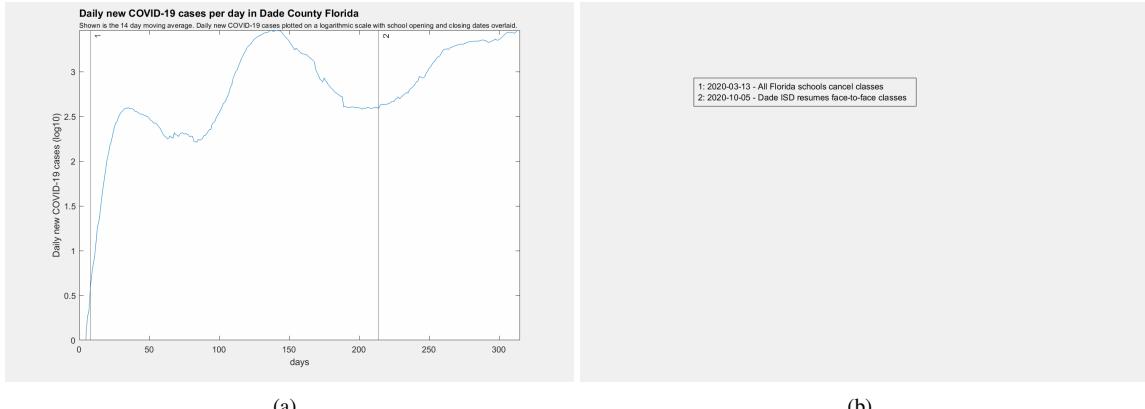


Figure 52: County-level COVID-19 case, hospitalization, and fatality statistics after local and state mask mandates are implemented (note: some counties do not have statewide mask mandates in place).

6 School Closings, and School Re-openings

In figures XX-XX, the 14 day moving average of daily new COVID-19 cases,hospitalizations and fatalities per day in 9 counties is displayed on a logarithmic scale (\log_{10}) with vertical line overlays representing the dates in which local school openings and closings have occurred. The counties assessed are Miami-Dade County, Florida; Broward County, Florida; Orange County, Florida; Los Angeles County, California; San Bernardino County, California; San Francisco County, California; Travis County, Texas; Dallas County, Texas; and Harris County, Texas.

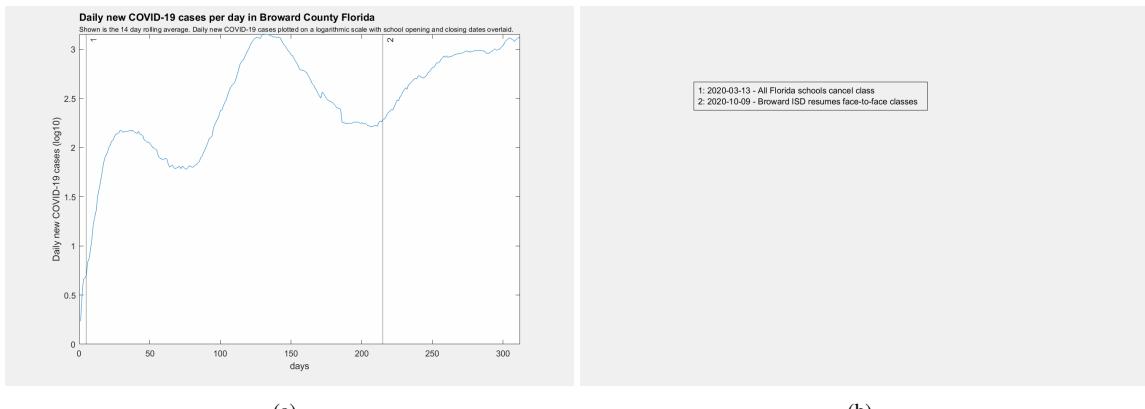
6.1 Schools and Daily New COVID-19 Cases



1: 2020-03-13 - All Florida schools cancel classes
2: 2020-10-05 - Dade ISD resumes face-to-face classes

(b)

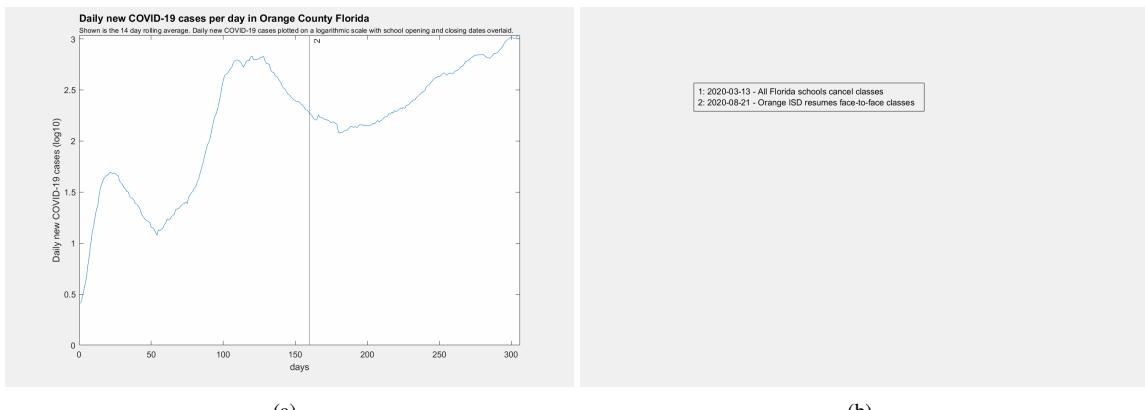
Figure 53: (a) blah (b) blah



1: 2020-03-13 - All Florida schools cancel class
2: 2020-10-09 - Broward ISD resumes face-to-face classes

(b)

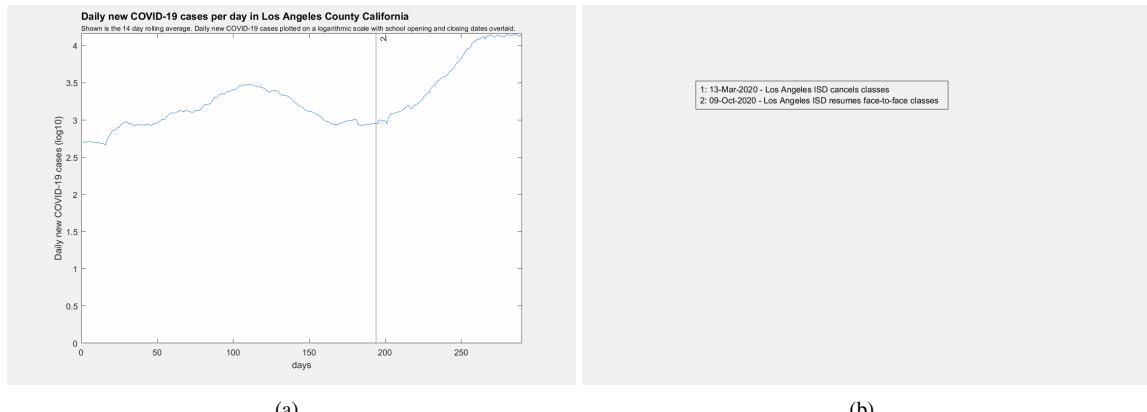
Figure 54: (a) blah (b) blah



1: 2020-03-13 - All Florida schools cancel classes
2: 2020-08-21 - Orange ISD resumes face-to-face classes

(b)

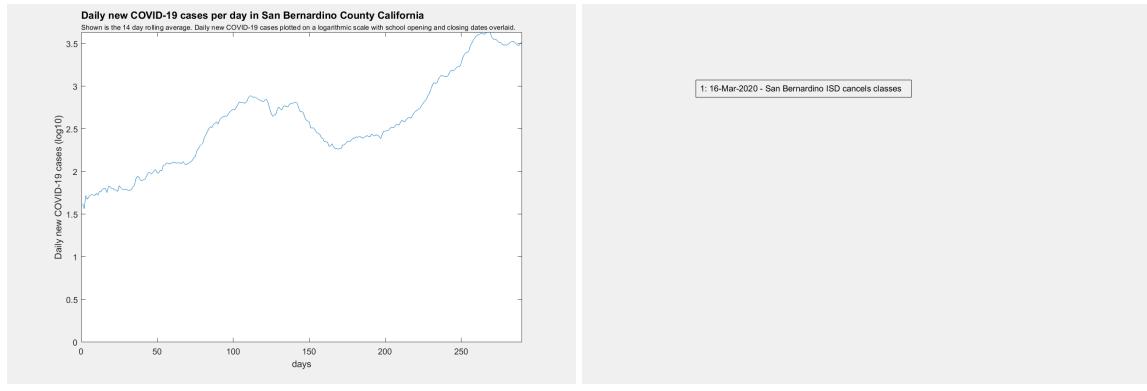
Figure 55: (a) blah (b) blah



(a)

(b)

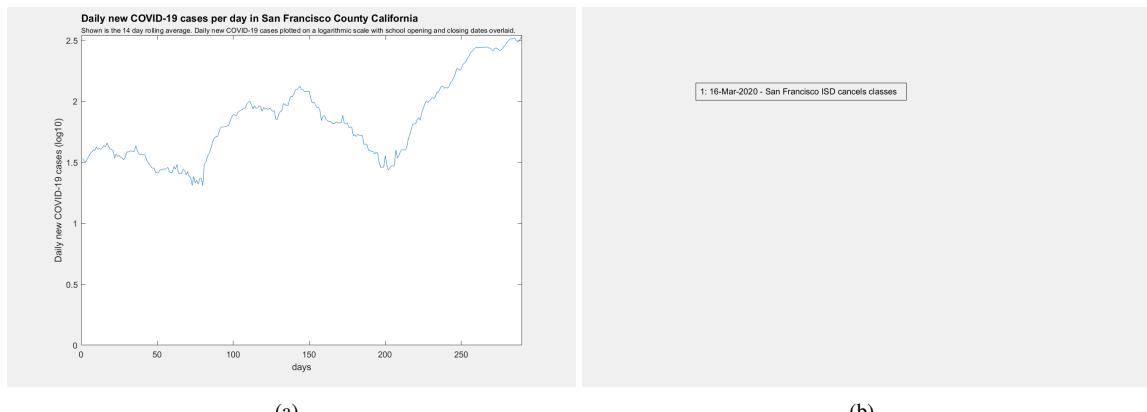
Figure 56: (a) blah (b) blah



(a)

(b)

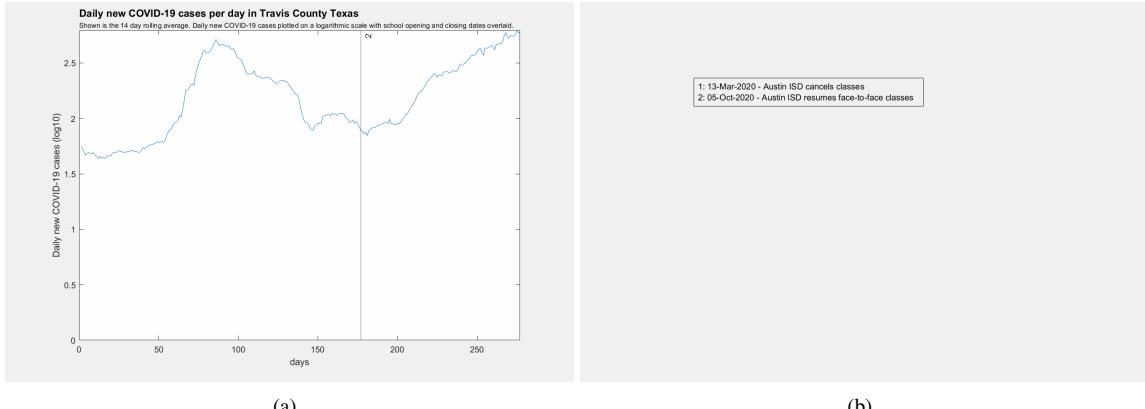
Figure 57: (a) blah (b) blah



(a)

(b)

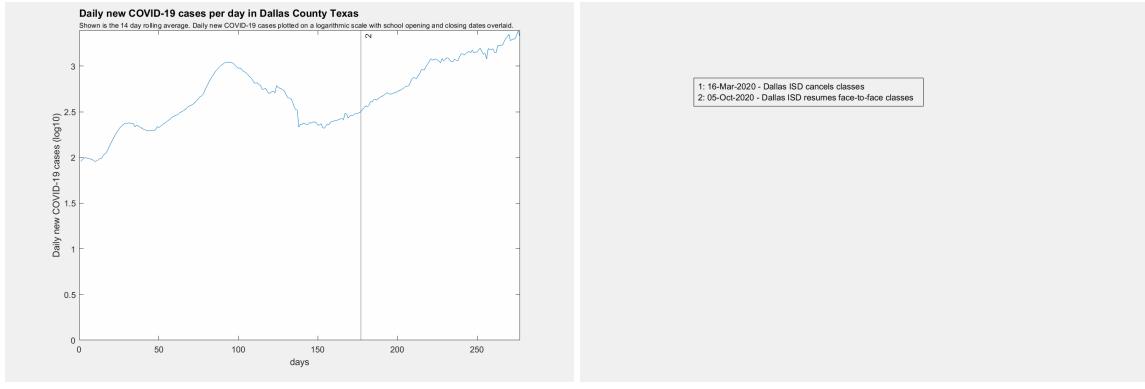
Figure 58: (a) blah (b) blah



(a)

(b)

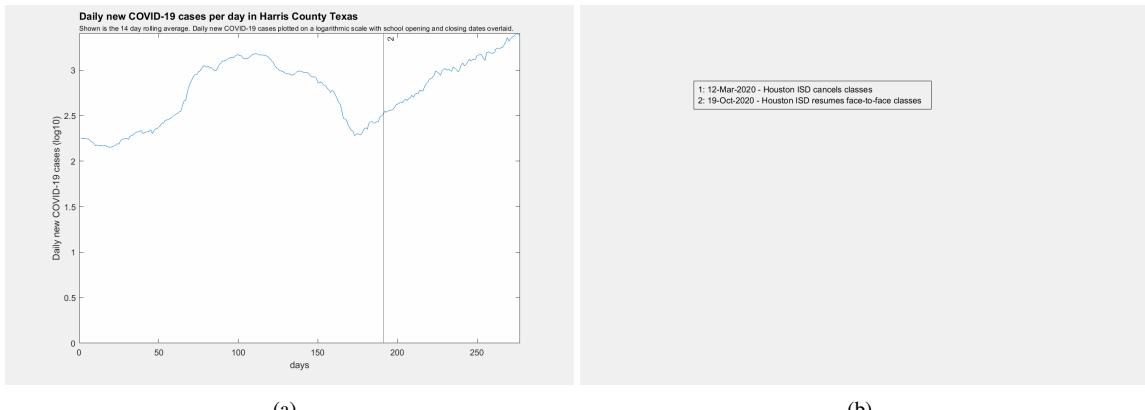
Figure 59: (a) blah (b) blah



(a)

(b)

Figure 60: (a) blah (b) blah

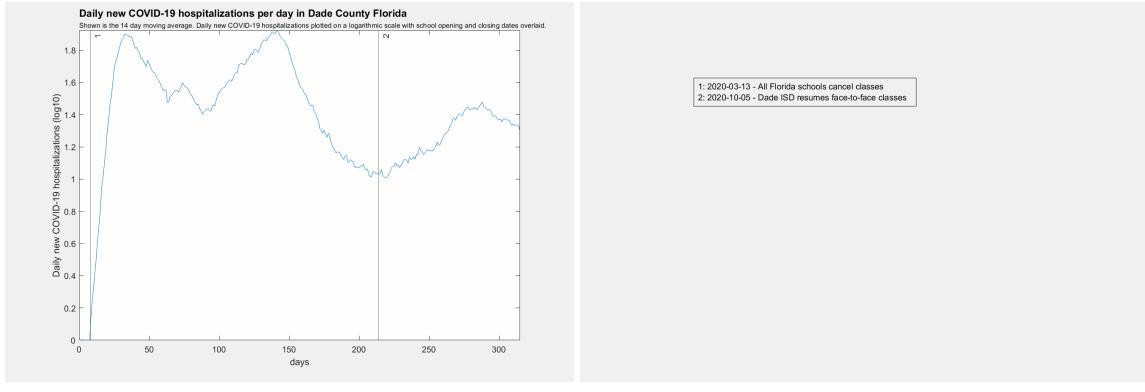


(a)

(b)

Figure 61: (a) blah (b) blah

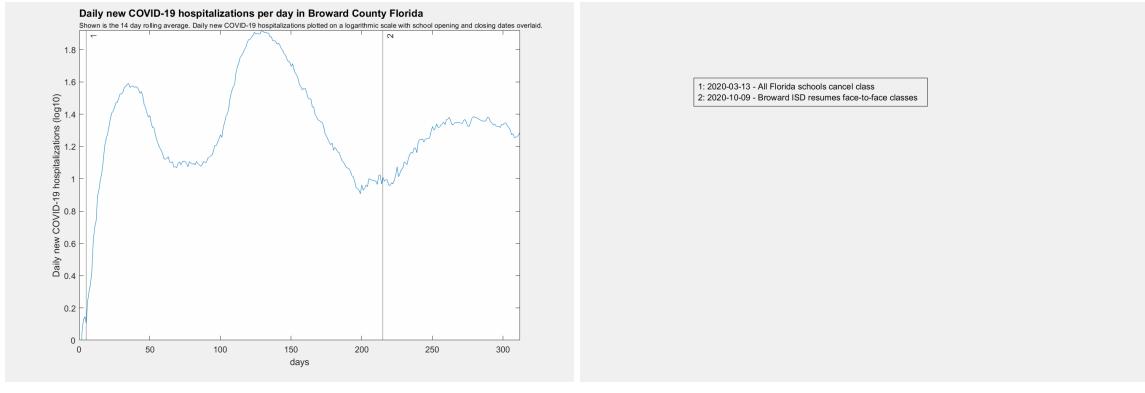
6.2 Schools and Daily New COVID-19 Hospitalizations



(a)

(b)

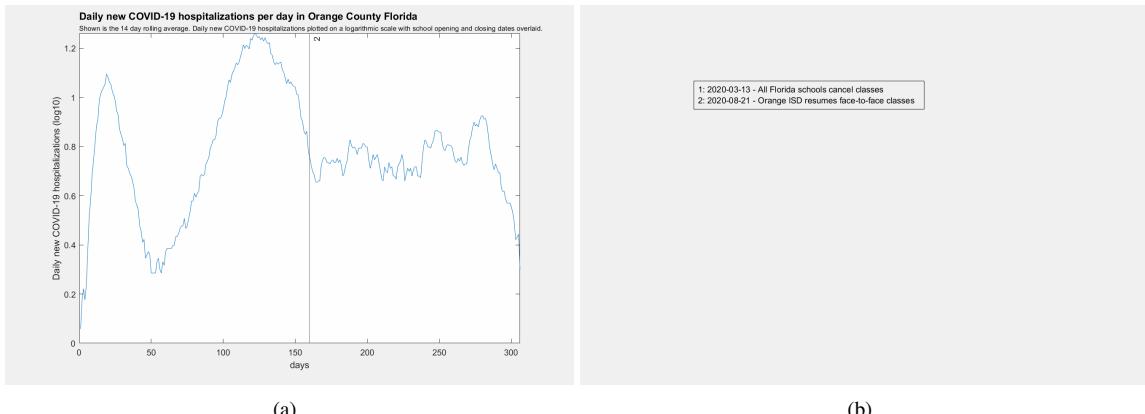
Figure 62: (a) blah (b) blah



(a)

(b)

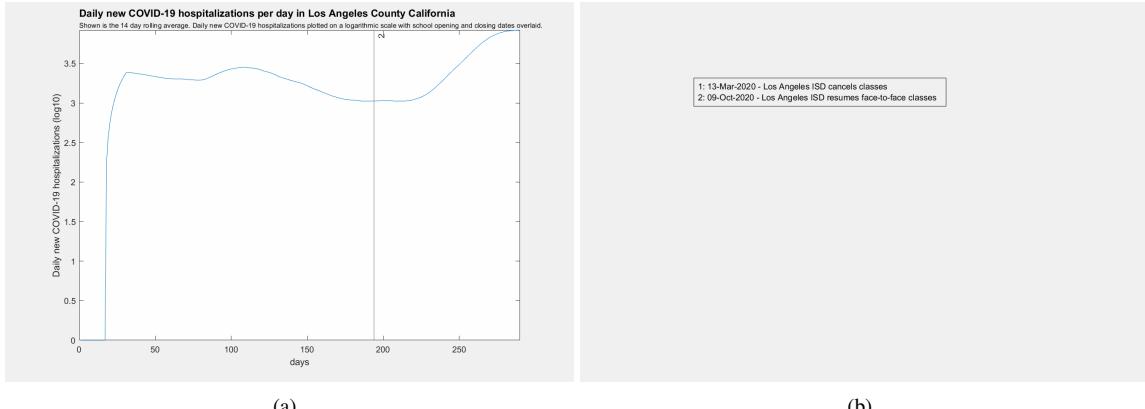
Figure 63: (a) blah (b) blah



(a)

(b)

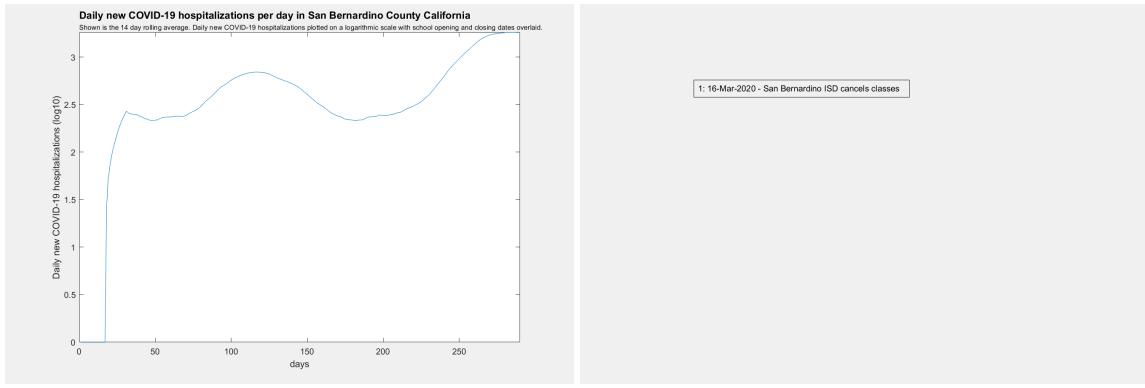
Figure 64: (a) blah (b) blah



(a)

(b)

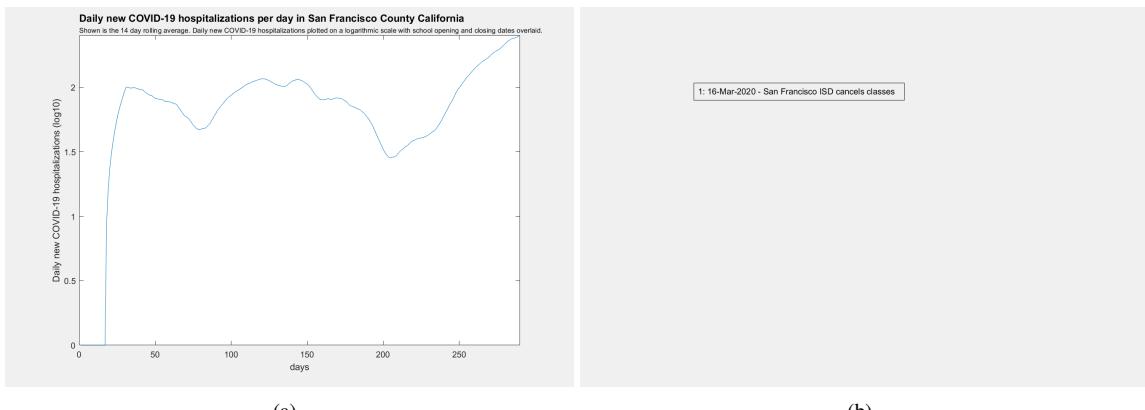
Figure 65: (a) blah (b) blah



(a)

(b)

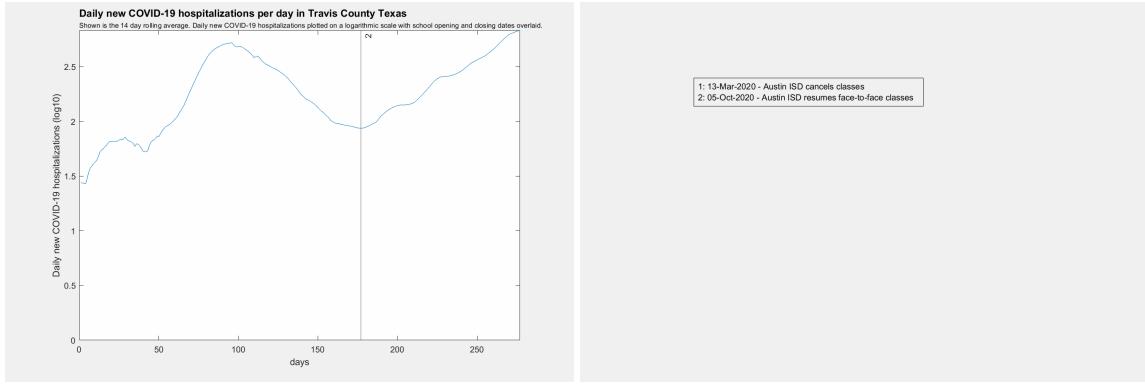
Figure 66: (a) blah (b) blah



(a)

(b)

Figure 67: (a) blah (b) blah

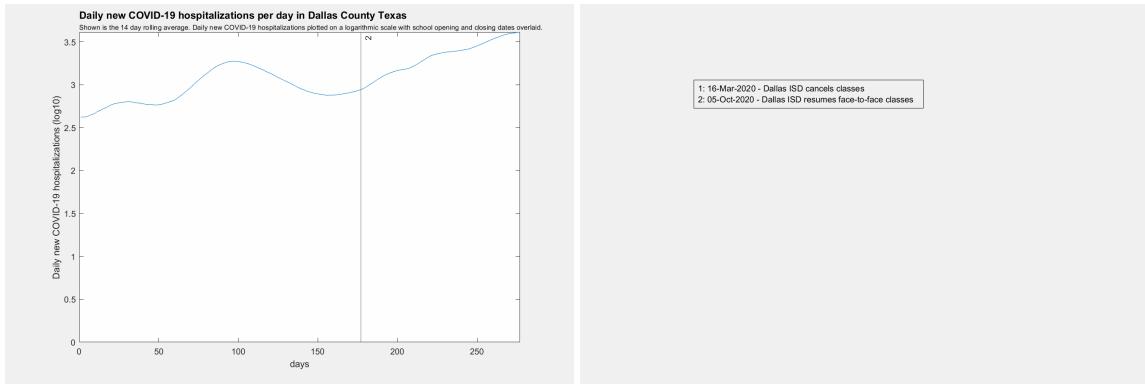


(a)

1: 13-Mar-2020 - Austin ISD cancels classes
2: 05-Oct-2020 - Austin ISD resumes face-to-face classes

(b)

Figure 68: (a) blah (b) blah

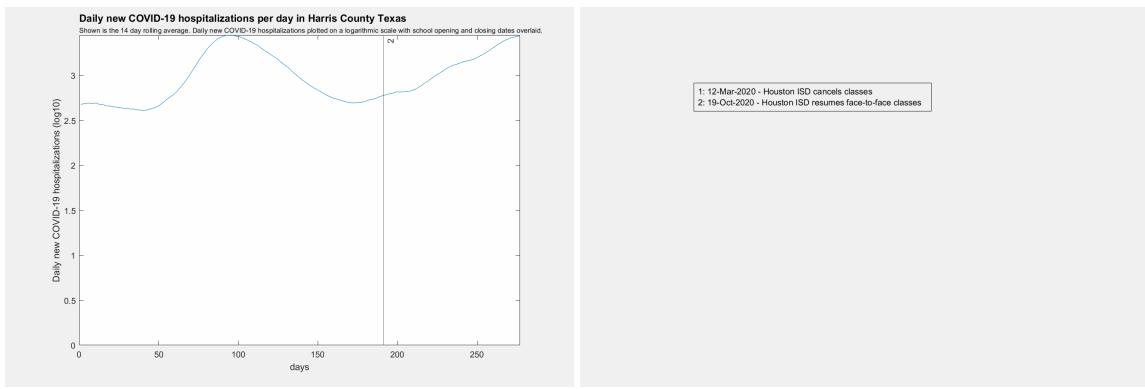


(a)

1: 16-Mar-2020 - Dallas ISD cancels classes
2: 05-Oct-2020 - Dallas ISD resumes face-to-face classes

(b)

Figure 69: (a) blah (b) blah



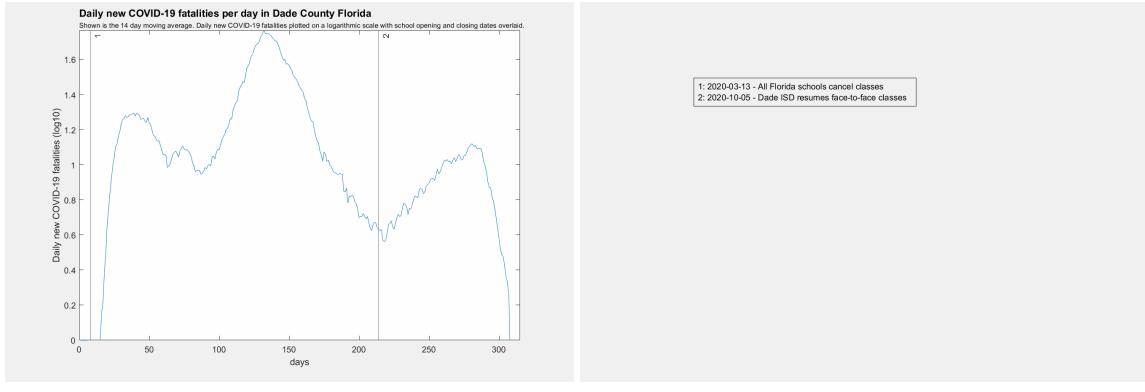
(a)

1: 12-Mar-2020 - Houston ISD cancels classes
2: 19-Oct-2020 - Houston ISD resumes face-to-face classes

(b)

Figure 70: (a) blah (b) blah

6.3 Schools and Daily New COVID-19 Fatalities

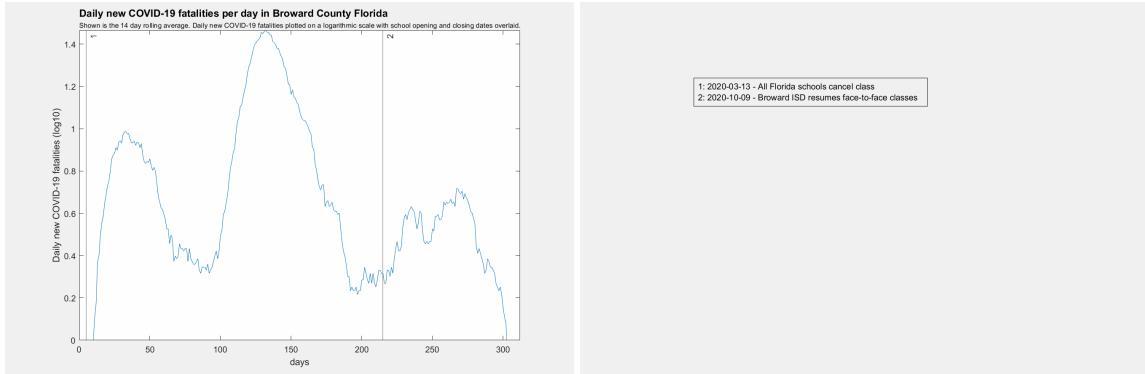


(a)

1: 2020-03-13 - All Florida schools cancel classes
2: 2020-10-05 - Dade ISD resumes face-to-face classes

(b)

Figure 71: (a) blah (b) blah

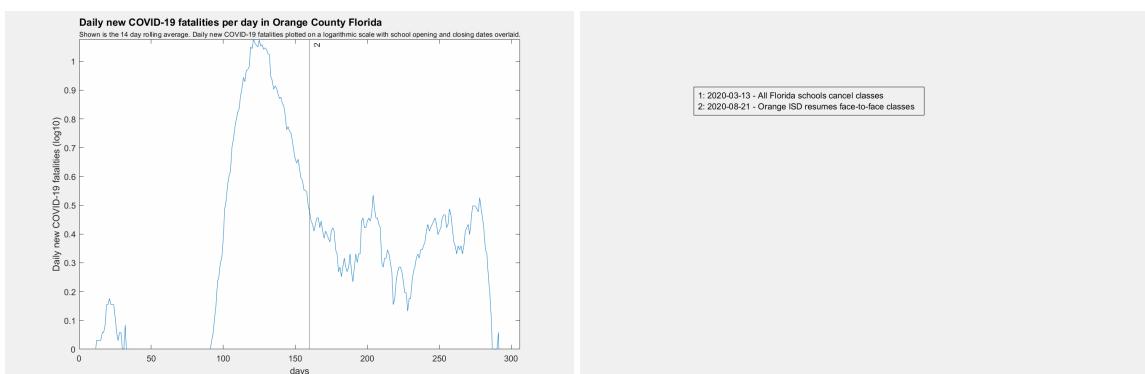


(a)

1: 2020-03-13 - All Florida schools cancel class
2: 2020-10-09 - Broward ISD resumes face-to-face classes

(b)

Figure 72: (a) blah (b) blah

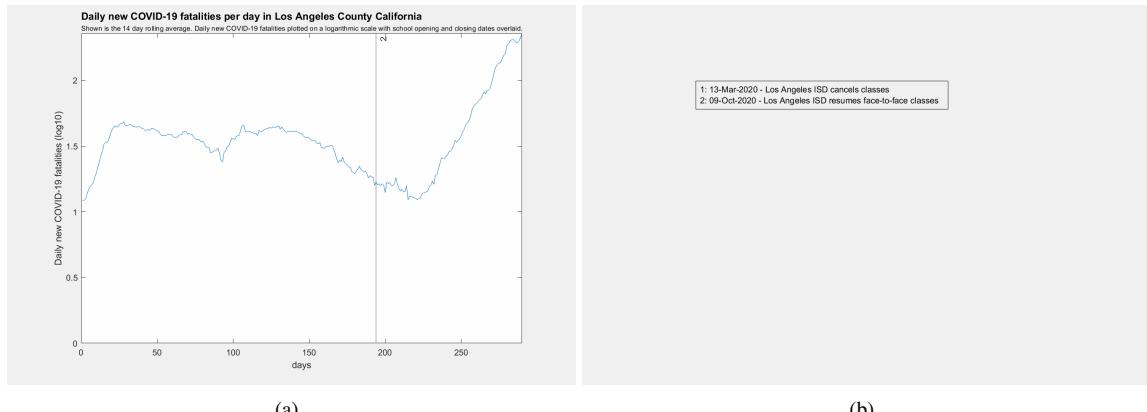


(a)

1: 2020-03-13 - All Florida schools cancel classes
2: 2020-08-21 - Orange ISD resumes face-to-face classes

(b)

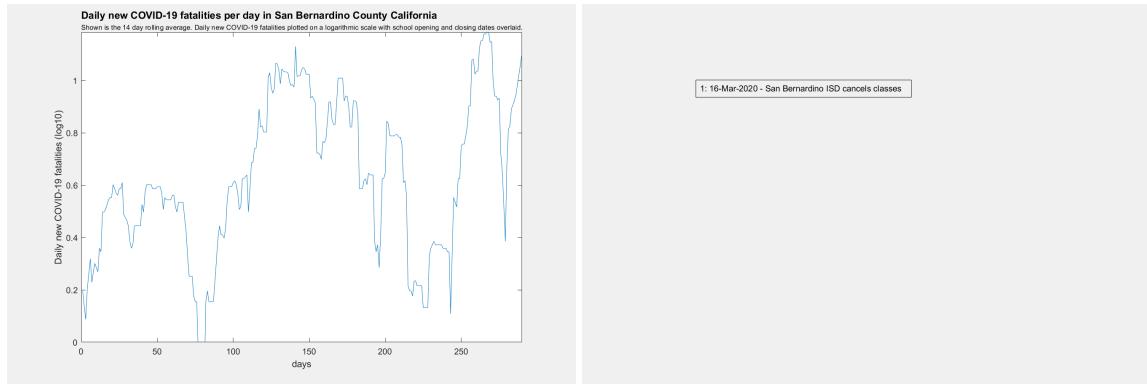
Figure 73: (a) blah (b) blah



(a)

(b)

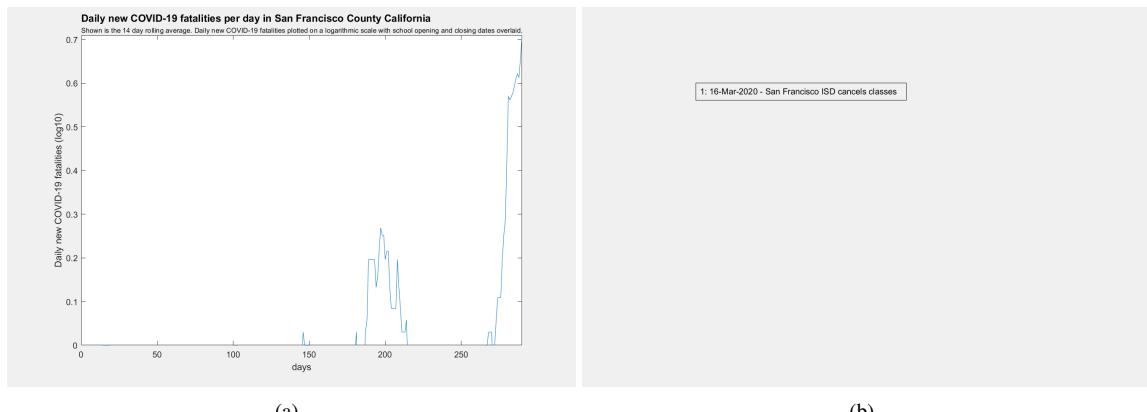
Figure 74: (a) blah (b) blah



(a)

(b)

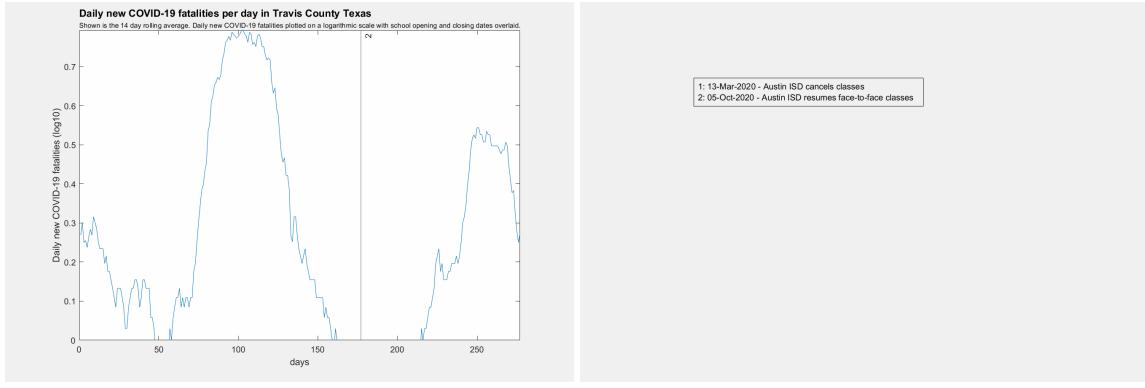
Figure 75: (a) blah (b) blah



(a)

(b)

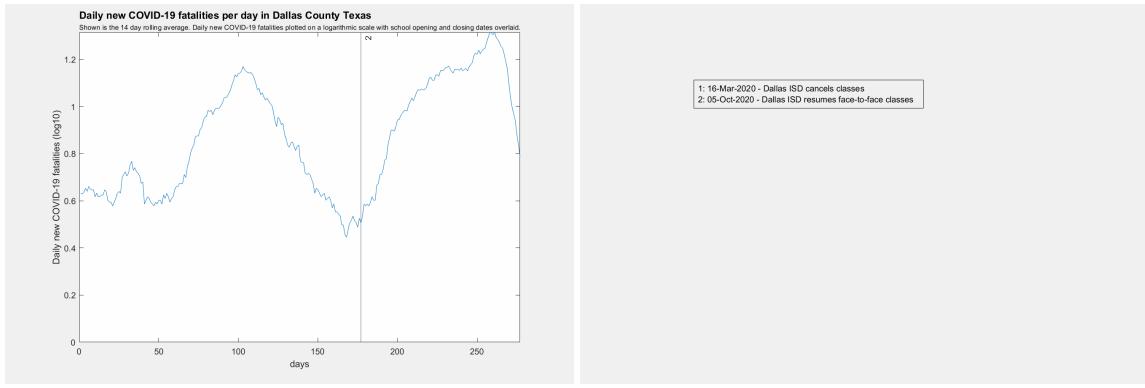
Figure 76: (a) blah (b) blah



(a)

(b)

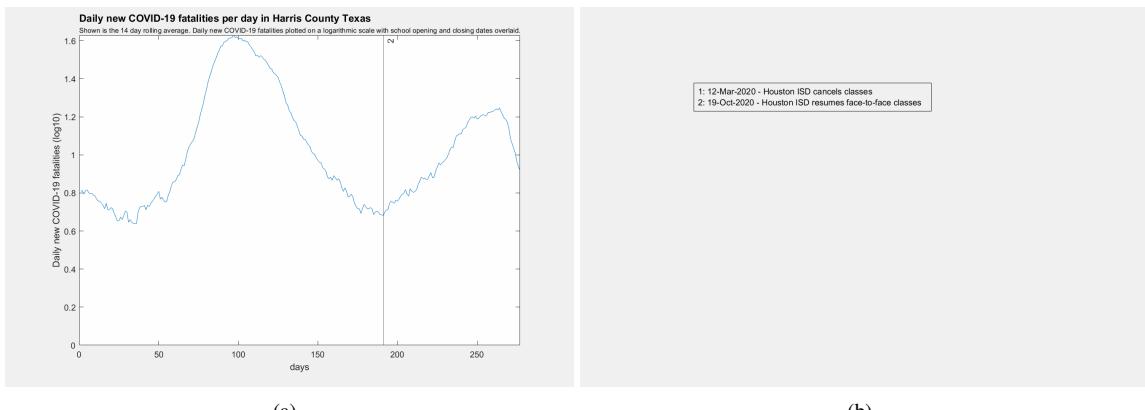
Figure 77: (a) blah (b) blah



(a)

(b)

Figure 78: (a) blah (b) blah



(a)

(b)

Figure 79: (a) blah (b) blah