The impact of social distancing on COVID19 spread: State of Georgia case study supporting information

S1 Appendix. Data sources, model description and model inputs

Data sources

Multiple sources of data were used throughout this study, including household type [1], household size [2], children status [2, 3], workflow [4], and population demographics [2]. The household type represents the percentage of households with a specific number of people that are designated as family. The children status is the percentage of households with at least a certain number of children. The workflow is the number of people who live in one census tract and work in another census tract. Our workflow data also includes people who live outside of Georgia but work in some census tract in Georgia. For the population demographics, we divided the population into five age categories: 0 year olds to 4 year olds, 5 year olds to 9 year olds, 10 year olds to 19 year olds, 20 year olds to 64 year olds, and 65+ year olds.

To ensure that certain groups interacted with certain other groups more, we imposed different probabilities based on the age of the person for the following parameters in the model: probability of hospitalization and probability of death. We were unable to find the proportion of patients of the specific age categories we desired for the following parameters in the literature: proportion of patients that develop symptoms after being exposed, proportion of patients that are asymptomatic after being exposed, and transmission rate.

County-level confirmed COVID19 infections and deaths were collected from The New York Times [2], based on reports from state and local health agencies. County-level hospitalizations were acquired from the Georgia Department of Health [2, 5].

Agent-based infection spread model

We adapted a simulation-based disease spread model assuming heterogeneous population mixing to predict the spread pattern of the disease geographically over a period of one year based on existing agent-based simulation models [6-9]. The underlying model was a Susceptible-Exposed-Infected-Recovered (SEIR) model that tracks the disease status of an individual as the disease spreads through a census-tract level contact network by interactions in households, workplaces, schools, and communities. Each population member was assumed to be an agent in the disease spread but with different interactions in the household, workplace and in the community, with different rates of transmission and with different rates for severe outcomes such as hospitalizations and deaths varying with the age group. The model assumed one million agents, that is, one agent corresponding to approximately 10 people in the population in Georgia.

The path every person takes in the infection spread process starts at being susceptible (unless they start in the exposed phase initially). Anyone who is susceptible has a probability of being exposed based on age group (0-4, 5-9, 10-19, 20-64, 65+) and with whom a person interacts (peer group in school, peer group at work, etc.). Once someone is exposed, he/she will eventually become infectious, called the transition phase. There is some latency between when they are exposed and when they are in the transition phase. That duration is based on a Weibull distribution with a specified mean value (in number of days), called *Exposed Duration* in Table1. The transition phase lasts 12 hours

(0.5 days), the end of which marks when the person is symptomatic or asymptomatic, determined by a fixed probability, *Probability of Symptomatic* in Table 1. Note that for patients that eventually become symptomatic, the transition phase is the same as the pre-symptomatic duration. In the literature, the probability of being symptomatic has ranged from 30-90% [10]. It is important to note that the probability of symptomatic has been shown to have a significant impact on the predicted number of infections. For this reason, we have chosen to use 63%, which is in between the current best estimates of 60% and 65% provided by the CDC. The people who are asymptomatic will always recover but will remain infectious for a variable amount of time (in days) based on an exponential distribution with specified mean, called *Symptomatic Duration* in Table 1. Any person who is symptomatic can either recover or go to the hospital with an age-dependent probability defined by *Probability of Hospitalization* in Table 1. Any person who goes to the hospital can, again, either recover, or can die with an age-dependent probability named *Probability of Death* in Table 1. At each point where there are two options, there is an associated probability given in Table 1*, Probability of symptomatic, Probability of Hospitalization,* and *Probability of death.*

The *Probability of Symptomatic* in Table 1 is the probability that a pre-symptomatic infected patient will start showing symptoms. The *Probability of Hospitalization* in Table 1 is the probability that a symptomatic patient becomes hospitalized. The *Probability of Death* in Table 1 is the probability that a person who is hospitalized dies. The R_0in Table 1 is the *reproductive number*, which measures the transmission potential of the virus (i.e., the expected number of secondary infections caused by a typical infection). The β in Table

1 parameter represents the transmission rate. The *Exposed Duration* in Table 1 is the length of time (in days) between when a person was exposed to COVID19 from another infectious person and when this person becomes infectious, that is, when a person enters the transition phase. Note that a person becomes infectious when they enter the transition phase. The Transition *Duration* in Table 1 is the amount of time (in days) before an infected patient enters either the symptomatic or asymptomatic phase. Note that a patient will either become symptomatic or asymptomatic after the same amount of time (in days) through the transition phase. Also note that a person who goes from the transition phase to asymptomatic has no fundamental change. It is simply that this person will continue to never develop symptoms. The *Symptomatic Duration* in Table 1 is the amount of time (in days) it takes for a symptomatic person to become either hospitalized or recovered. The *Hospitalized Duration* in Table 1 is the amount of time (in days) a person who has been hospitalized will either become recovered or will die. The *Symptomatic-Asymptomatic Duration Ratio* in Table 1 is the ratio of duration times between symptomatic and asymptomatic, which is used to identify the average asymptomatic duration. The θ parameter in Table 1 is the proportion of transmission that occurs at the transition or asymptomatic phase. The ω parameter in Table 1 denotes the proportion of infections generated by individuals who are asymptomatic.

To seed the model, we utilized the confirmed infection data for Georgia. Since the infection data was stratified down to the county level and our initialization needed data down to the census tract level, we took the numbers provided for the county level from The New York Times [2] and applied the Huntington-Hill method of apportionment (the same method used to decide the number of seats that belong to each U.S. congressman

in the House of Representatives) [11] to apportion the number of COVID19 confirmed infections from May 15th to each of the census tracts in the state of Georgia. We used the distribution of the seeds from the confirmed infections to inform the community-level projections.

At the start of a simulation run, an initial infection was introduced randomly to agents from census tracts following the distributions of confirmed infections in Georgia. Any susceptible individual who becomes infected changes their disease status from susceptible to exposed. With pre-defined probabilities, the disease progresses within infected individuals and spreads to previously healthy individuals across the network. Once recovered from the disease, the individual remains in that state as there is no definitive evidence that it is possible to be re-infected with COVID19 after full recovery.

The code used was implemented using C++.

Capacity need estimation: description of model inputs

To calculate the daily number of hospital beds (general inpatient and ICU beds) needed, we take the needs from the previous day after removing patients that have been discharged and add the daily new hospitalizations by age group. The number of patients who are discharged is determined by taking a fraction of the hospitalized population, based on the mean value of the *Hospitalization Duration*. The *Hospitalized Duration* is defined as the average length of stay of a COVID19 patient in the hospital. Calculations for ICU bed needs are found by taking the ICU patients from the previous day after removing individuals that have been discharged from the ICU and adding a percentage of the daily new hospitalizations by age group, where percentages are determined by the

age-dependent *Percentage of hospitalizations that require ICU* from Table 1. The *Percentage of hospitalizations that require ICU* is the percentage of COVID19 hospital patients that have been transferred to the ICU because of the severity of their illness. This percentage has been considered to be age-dependent and the estimations for each age group are given in Table 1. The number of ICU patients that are discharged is a fraction of the current COVID19 ICU population, based on the *ICU Duration* from Table 1. The *ICU Duration* is the average length of stay in the ICU for a COVID19 patient. Lastly, the calculations for ventilator needs are determined by taking the ICU patients from the previous day that are on ventilation after removing the ICU patients who have stopped ventilation and adding a percentage of the daily new ICU patients, based on the *Percentage of ICU patients that require ventilation* from Table 1. The *Percentage of ICU patients that require ventilation* is defined as the percent of COVID19 patients in the ICU whose illness severity requires respiratory support through mechanical ventilation or ECMO services. The fraction of ventilation patients who are removed from ventilation services is calculated from the average length of time on ventilation for a COVID19 patient, referred to as *Ventilation Duration* in Table 1.

A map of the 14 coordination hospital regions of Georgia can be found at [12].

Calibration and validation of the model

SIP intervention at the state level in Georgia was not implemented on March 16th; however most of the businesses, profit and non-profit organizations, and governmental organizations have enacted various interventions to establish VQ; starting on April 3, 2020 [13], the entire state of Georgia enacted statewide directives for SIP until April 30, 2020; new guidance was issued by the Governor of Georgia on April 20, 2020 that gyms,

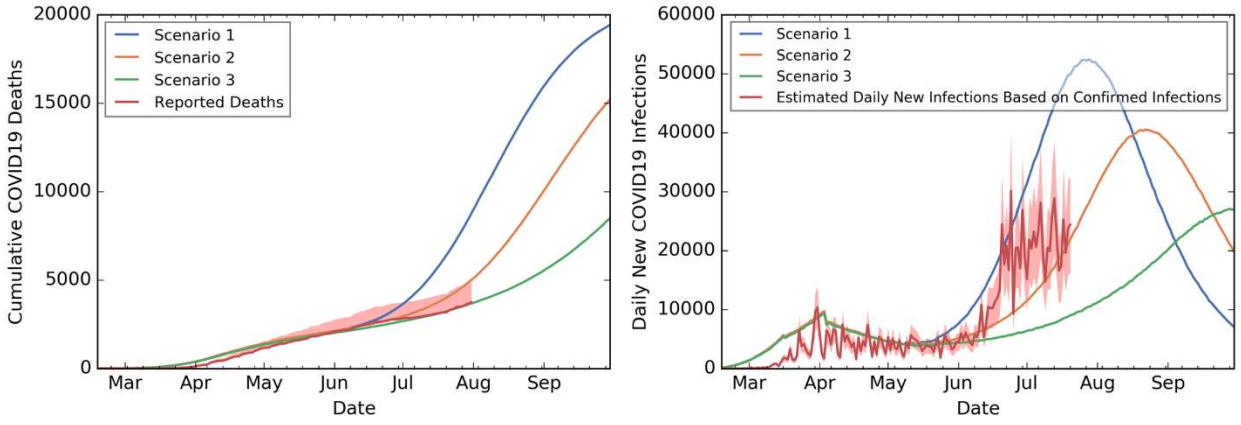
bowling alleys, tattoo parlors, barbers, hair and nail salons, and massage therapists may reopen for business on April 24, 2020, and theaters and dine-in restaurants may reopen for business on April 27, 2020 [14]. All intervention scenarios included decreasing compliance with voluntary shelter-in-place (VSIP) after the end of SIP. Compliance levels were chosen to be in line with social mobility indicators, calculated by vehicle miles travelled (VMT) [15] in Georgia and compared to levels in January 2020, before COVID19. During SIP, there was on average a 57% decrease in VMT compared to January. Although there was an increase in VMT in the weeks following SIP, VMT was 42%, 38%, 34% and 25% below the January level, respectively. Considering the gradual increase in VMT after SIP and the VMT levels staying below January levels during the course of the pandemic, it was assumed that after SIP, compliance with VSIP was 60%, 40%, 20% and 5% weekly following SIP and 5% continued to comply.

Due to high variations in preliminary COVID19 estimates, we calibrated our model and adjusted disease parameters according to confirmed COVID19 infections, hospitalizations and deaths in the state of Georgia. Percentage of symptomatic infections was adjusted based on the literature and confirmed infections. Probability of hospitalization was calculated and adjusted based on CDC report [16] and [5] to capture the age specific hospitalization probabilities and better mimic the current condition in the state of Georgia, to that end we multiplied probabilities provided in [11] with 1/3. In S1 Fig, we present the cumulative number of deaths confirmed by the state of Georgia in comparison to our projections and the confirmed COVID19 infections in Georgia [5] multiplied by 4-8 to account for under-testing and existence of asymptomatic infections [17]. Throughout the course of the pandemic, there has been a discrepancy among

testing capacity and testing demand; further, up until April, there were testing criteria in place that limited that amount of testing performed. Considering testing restrictions, variability in COVID19 symptoms, and feedback from the Georgia Department of Public Health, we believe a factor of 6 to be an appropriate multiplier. A more recent CDC report suggest the actual number of infections can be 6-10 times more than the confirmed number of infections [17].

Georgia results are shifted one week earlier to account for the infection incubation period in comparison to our daily infection estimates.

S1 Fig. Cumulative number of COVID19 deaths and infections. Cumulative number of COVID19 deaths (left plot) and infections (right plot) of Scenarios 1, 2, 3 with respect to confirmed numbers of Georgia. On left, the actual COVID19 deaths in Georgia multiplied by 1-1.25 for under-reporting [18] is plotted whereas on right, the confirmed COVID19 infections in Georgia [5] multiplied by 4-8 to account for under-testing and existence of asymptomatic infections [17] and moved one week earlier to account for incubation period.



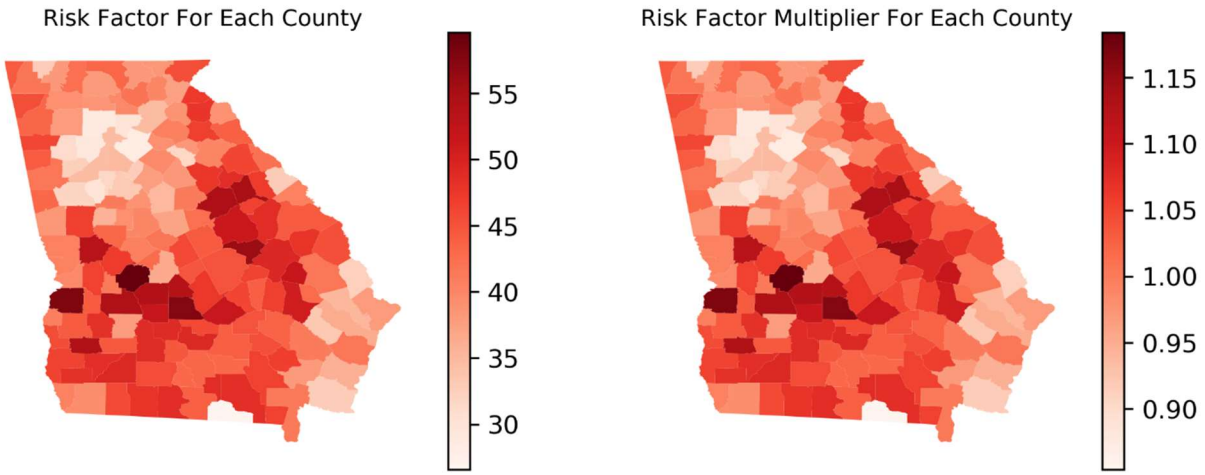
One way to assess the validity of the model was to examine the how our model performed on urban versus rural counties. For example, DeKalb County, an urban county, experiences the earliest peak day on July 26th under Scenario 1, but under Scenario 4 or 7, the peak shifted to August 5th–14th. Increasing VQ compliance to medium or high would push the peak day to August 19th and September 28th, respectively. On the other hand, Lamar County, a rural county, has its earliest peak on July 30th under Scenario 1, but under Scenario 4 or 7, the peak shifts to August 8th–16th. However, increasing VQ compliance to medium or high would push the peak day to August 30th and September 23rd.

For instance, peak infection percentage in Gordon County increases from 0.58% to 0.62% from Scenario 1 to 4 and decreases from 0.62% to 0.59% from Scenario 4 to 7. Similar fluctuations can be observed in other urban and rural counties. The rural county of Webster has a peak percentage decrease from 0.42% to 0.407% from Scenario 1 to 4 and increase from 0.40% to 0.41% from Scenario 4 to 7. Increasing VQ compliance from low to medium and from medium to high provides approximately a 20% and 39% decrease, respectively, in peak infection percentage.

County-level risk factors were calculated and are visualized in S2 Fig.

S2 Fig. County-level risk factor. County-level risk factor (left) and its multiplier (right) derived by applying the principal component analysis on several factors known to impact a higher risk of complications and severe outcomes for COVID19 infections, including

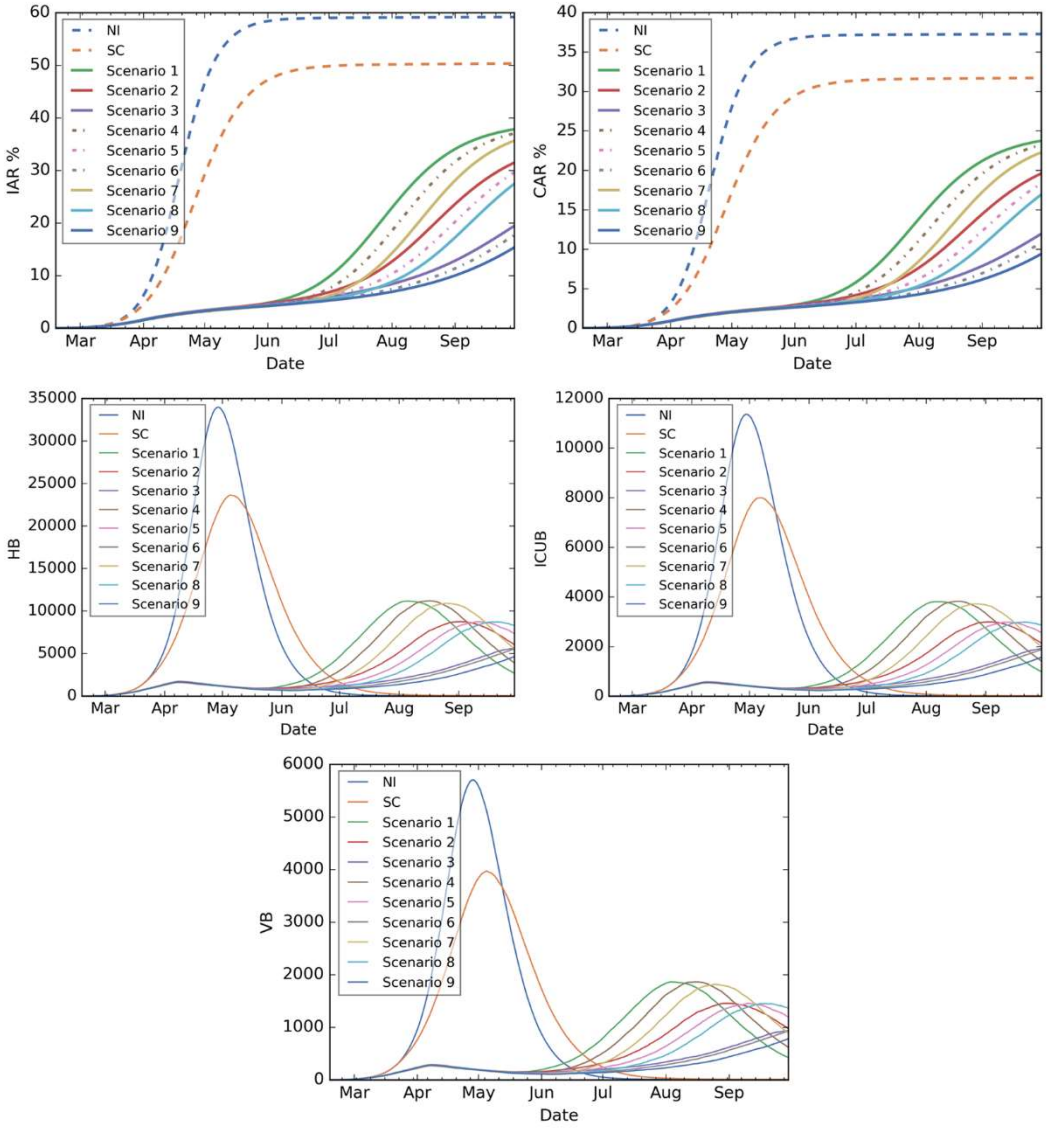
prevalence of asthma, diabetes, obesity, smoking, cardiovascular disease and chronic conditions in general [19].



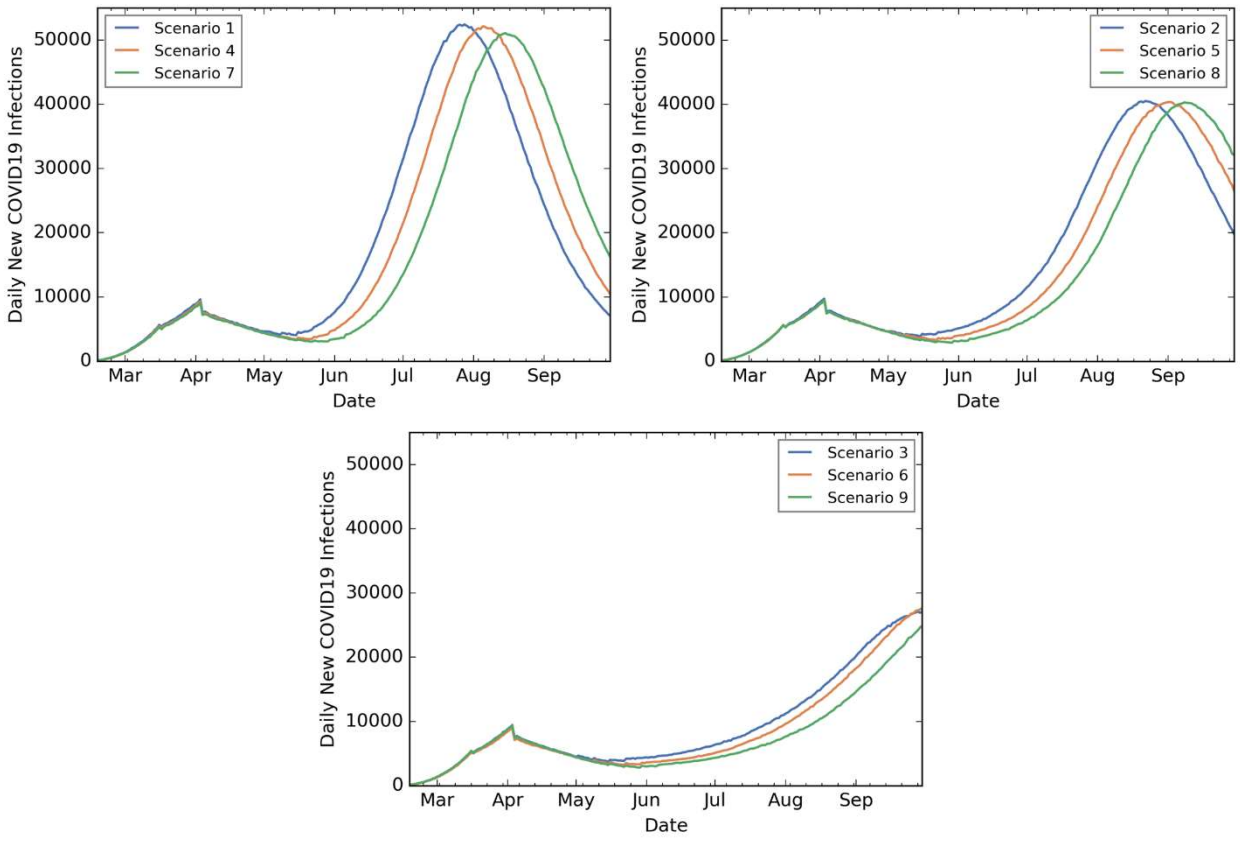
S2 Appendix. Supplemental figures, tables and results

This supplemental material provides additional figures and tables complementing the results presented in the main manuscript.

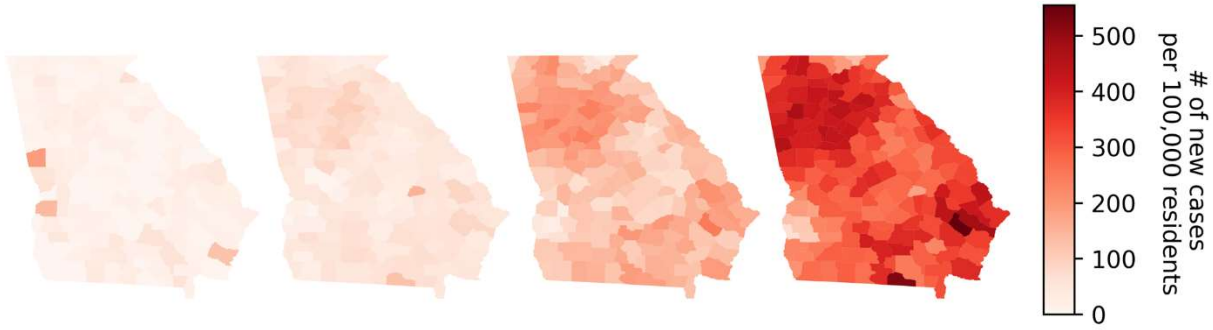
S3 Fig. State level outcomes: IAR, CAR, HB, ICUB, V across all scenarios. State Level Outcomes: IAR (first row left plot), CAR (first row right plot), hospital bed capacity (second row left plot), ICUB (second row right plot), V (third row center plot) across all scenarios (including the baseline scenarios).



S4 Fig. State level outcomes: NIC for low, medium, and high levels of VQ after 4, 5, and 6 weeks of SIP. State level Outcomes: Daily new COVID19 infections when Low VQ is combined with 4 week (Scenario 1), 5 week (Scenario 4), 6 week (Scenario 7) SIP (top left plot), Medium VQ is combined with 4 week (Scenario 2), 5 week (Scenario 5), 6 week (Scenario 8) SIP (top right plot), High VQ is combined with 4 week (Scenario 3), 5 week (Scenario 6), 6 week (Scenario 9) SIP (bottom center plot).



S5 Fig. Number of new infections per 100,000 people. Four maps of Georgia at the county level recording the number of new infections per 100,000 people for June 23,2020 (using the actual number of infections), July 15, 2020 (simulated data from our model), August 15, 2020 (simulated data), and September 15, 2020 (simulated data), respectively [19].



S1 Table. Peak day in each county.

County Name	NI	SC	1	2	3	4	5	6	7	8	9
Appling	29-Apr	9-May	5-Aug	7-Sep	23-Sep	7-Aug	12-Sep	25-Sep	24-Aug	15-Sep	30-Sep
Atkinson	2-May	10-May	4-Aug	31-Aug	25-Sep	6-Aug	10-Sep	1-Sep	30-Aug	18-Sep	28-Sep
Bacon	27-Apr	14-May	6-Aug	22-Sep	29-Sep	5-Aug	5-Sep	25-Sep	2-Sep	8-Sep	29-Sep
Baker	30-Apr	8-May	7-Aug	20-Aug	4-Sep	20-Aug	8-Sep	28-Sep	8-Aug	28-Sep	27-Sep
Baldwin	28-Apr	7-May	6-Aug	4-Sep	30-Sep	24-Aug	13-Sep	25-Sep	30-Aug	13-Sep	25-Sep
Banks	23-Apr	26-Apr	31-Jul	8-Sep	22-Sep	11-Aug	3-Sep	27-Sep	26-Aug	11-Sep	28-Sep
Barrow	17-Apr	24-Apr	26-Jul	25-Aug	23-Sep	5-Aug	24-Aug	30-Sep	14-Aug	4-Sep	29-Sep
Bartow	16-Apr	24-Apr	28-Jul	20-Aug	25-Sep	6-Aug	27-Aug	30-Sep	17-Aug	2-Sep	28-Sep
Ben Hill	30-Apr	2-May	30-Aug	2-Sep	24-Sep	3-Aug	19-Sep	20-Sep	31-Aug	29-Sep	24-Sep
Berrien	24-Apr	8-May	16-Aug	17-Aug	24-Sep	16-Aug	22-Sep	13-Sep	3-Sep	8-Sep	20-Sep
Bibb	22-Apr	30-Apr	7-Aug	31-Aug	30-Sep	18-Aug	9-Sep	30-Sep	18-Aug	20-Sep	30-Sep
Bleckley	23-Apr	26-Apr	7-Aug	19-Aug	28-Sep	19-Aug	16-Sep	29-Sep	18-Aug	14-Sep	12-Sep
Brantley	23-Apr	12-May	25-Jul	22-Aug	17-Sep	11-Aug	26-Aug	29-Sep	9-Sep	20-Sep	24-Sep
Brooks	1-May	28-Apr	26-Jul	18-Sep	22-Sep	7-Aug	7-Sep	28-Sep	20-Aug	27-Sep	30-Sep
Bryan	20-Apr	29-Apr	30-Jul	20-Aug	20-Sep	11-Aug	1-Sep	23-Sep	14-Aug	11-Sep	29-Sep
Bulloch	22-Apr	29-Apr	1-Aug	28-Aug	23-Sep	18-Aug	4-Sep	28-Sep	31-Aug	19-Sep	30-Sep
Burke	24-Apr	6-May	8-Aug	29-Aug	22-Sep	5-Aug	28-Aug	19-Sep	26-Aug	9-Sep	27-Sep
Butts	20-Apr	26-Apr	21-Jul	22-Aug	14-Sep	29-Jul	5-Sep	29-Sep	18-Aug	10-Sep	29-Sep
Calhoun	1-May	6-May	19-Aug	9-Sep	27-Sep	28-Aug	28-Sep	30-Sep	8-Sep	9-Sep	15-Sep
Camden	25-Apr	15-May	13-Jul	27-Aug	28-Sep	17-Aug	26-Sep	30-Sep	26-Aug	16-Sep	28-Sep
Candler	28-Apr	7-May	17-Aug	21-Aug	20-Sep	4-Sep	7-Sep	26-Sep	27-Aug	8-Sep	29-Sep
Carroll	18-Apr	28-Apr	27-Jul	15-Aug	28-Sep	6-Aug	5-Sep	26-Sep	21-Aug	7-Sep	29-Sep
Catoosa	24-Apr	4-May	7-Aug	24-Aug	26-Sep	15-Aug	15-Sep	30-Sep	23-Aug	14-Sep	29-Sep
Charlton	11-May	19-May	7-Aug	21-Aug	19-Sep	27-Aug	30-Sep	18-Sep	21-Aug	21-Sep	21-Sep
Chatham	18-Apr	28-Apr	4-Aug	30-Aug	30-Sep	12-Aug	6-Sep	27-Sep	19-Aug	14-Sep	30-Sep
Chattahoochee	30-Apr	14-May	6-Aug	14-Sep	28-Sep	13-Aug	25-Sep	23-Sep	2-Sep	20-Sep	25-Sep
Chattooga	21-Apr	1-May	4-Aug	29-Aug	26-Sep	17-Aug	11-Sep	22-Sep	21-Aug	20-Sep	29-Sep
Cherokee	17-Apr	24-Apr	27-Jul	21-Aug	22-Sep	3-Aug	28-Aug	28-Sep	13-Aug	6-Sep	30-Sep
Clarke	19-Apr	1-May	2-Aug	19-Aug	27-Sep	14-Aug	9-Sep	25-Sep	12-Aug	6-Sep	28-Sep
Clay	30-Apr	16-May	22-Aug	11-Sep	20-Sep	11-Sep	21-Sep	24-Sep	22-Sep	13-Sep	17-Aug
Clayton	16-Apr	23-Apr	22-Jul	16-Aug	18-Sep	2-Aug	30-Aug	28-Sep	14-Aug	7-Sep	30-Sep
Clinch	16-May	23-May	12-Aug	28-Aug	29-Sep	12-Aug	14-Sep	29-Sep	17-Aug	29-Sep	30-Sep
Cobb	18-Apr	22-Apr	26-Jul	20-Aug	27-Sep	1-Aug	24-Aug	29-Sep	13-Aug	6-Sep	29-Sep
Coffee	27-Apr	9-May	3-Aug	1-Sep	23-Sep	11-Aug	7-Sep	30-Sep	18-Aug	16-Sep	29-Sep
Colquitt	24-Apr	23-Apr	1-Aug	27-Aug	27-Sep	7-Aug	9-Sep	29-Sep	31-Aug	24-Sep	29-Sep
Columbia	20-Apr	7-May	1-Aug	4-Sep	25-Sep	15-Aug	1-Sep	28-Sep	17-Aug	17-Sep	30-Sep
Cook	23-Apr	30-Apr	10-Aug	24-Aug	30-Sep	24-Aug	29-Sep	28-Sep	27-Aug	17-Sep	29-Sep
Coweta	19-Apr	24-Apr	27-Jul	23-Aug	28-Sep	6-Aug	2-Sep	30-Sep	16-Aug	6-Sep	30-Sep
Crawford	24-Apr	27-Apr	3-Aug	4-Sep	25-Sep	14-Aug	1-Sep	30-Sep	25-Aug	1-Sep	29-Sep
Crisp	26-Apr	7-May	13-Aug	27-Aug	30-Sep	20-Aug	6-Sep	30-Sep	3-Sep	7-Sep	26-Sep

Dade	1-May	15-May	13-Aug	29-Aug	20-Sep	23-Aug	21-Sep	25-Sep	5-Sep	28-Sep	30-Sep
Dawson	21-Apr	25-Apr	23-Jul	21-Aug	28-Sep	7-Aug	31-Aug	16-Sep	18-Aug	7-Sep	25-Sep
Decatur	4-May	7-May	20-Aug	27-Aug	28-Sep	7-Aug	29-Sep	30-Sep	11-Aug	25-Sep	25-Sep
DeKalb	18-Apr	25-Apr	26-Jul	19-Aug	28-Sep	5-Aug	31-Aug	29-Sep	14-Aug	9-Sep	30-Sep
Dodge	23-Apr	6-May	14-Aug	29-Aug	29-Sep	24-Aug	10-Sep	29-Sep	19-Aug	28-Aug	30-Sep
Dooly	24-Apr	9-May	2-Aug	6-Sep	22-Sep	22-Aug	3-Sep	30-Sep	26-Aug	21-Sep	28-Sep
Dougherty	22-Apr	5-May	10-Aug	7-Sep	30-Sep	16-Aug	8-Sep	27-Sep	31-Aug	21-Sep	30-Sep
Douglas	18-Apr	22-Apr	27-Jul	24-Aug	26-Sep	2-Aug	2-Sep	23-Sep	11-Aug	5-Sep	30-Sep
Early	30-Apr	10-May	15-Aug	22-Aug	19-Sep	16-Aug	28-Sep	26-Sep	5-Sep	26-Sep	30-Sep
Echols	24-Apr	6-May	2-Aug	15-Aug	24-Sep	4-Aug	28-Sep	30-Sep	2-Sep	27-Sep	29-Sep
Effingham	20-Apr	25-Apr	5-Aug	25-Aug	25-Sep	17-Aug	6-Sep	30-Sep	12-Aug	28-Aug	30-Sep
Elbert	28-Apr	8-May	17-Aug	23-Sep	15-Sep	28-Aug	12-Sep	26-Sep	20-Aug	15-Sep	30-Sep
Emanuel	29-Apr	3-May	10-Aug	20-Aug	15-Sep	17-Aug	11-Sep	30-Sep	27-Aug	18-Sep	27-Sep
Evans	28-Apr	1-May	2-Aug	6-Sep	12-Sep	14-Aug	23-Aug	29-Sep	24-Aug	19-Sep	28-Sep
Fannin	30-Apr	7-May	4-Aug	22-Aug	30-Sep	22-Aug	18-Sep	22-Sep	29-Aug	12-Sep	26-Sep
Fayette	18-Apr	23-Apr	28-Jul	17-Aug	27-Sep	8-Aug	1-Sep	30-Sep	14-Aug	9-Sep	23-Sep
Floyd	22-Apr	2-May	30-Jul	27-Aug	25-Sep	8-Aug	15-Sep	27-Sep	23-Aug	13-Sep	29-Sep
Forsyth	17-Apr	26-Apr	23-Jul	17-Aug	25-Sep	2-Aug	26-Aug	30-Sep	17-Aug	10-Sep	30-Sep
Franklin	25-Apr	6-May	25-Jul	25-Aug	27-Sep	23-Aug	19-Sep	28-Sep	21-Aug	6-Sep	30-Sep
Fulton	18-Apr	23-Apr	25-Jul	22-Aug	30-Sep	31-Jul	2-Sep	29-Sep	14-Aug	5-Sep	30-Sep
Gilmer	23-Apr	29-Apr	2-Aug	27-Aug	28-Sep	6-Aug	9-Sep	27-Sep	16-Aug	10-Sep	28-Sep
Glascock	29-Apr	5-May	13-Aug	20-Sep	30-Sep	29-Aug	15-Sep	30-Sep	18-Aug	27-Sep	27-Sep
Glynn	23-Apr	8-May	6-Aug	30-Aug	29-Sep	14-Aug	27-Sep	30-Sep	23-Aug	22-Sep	18-Sep
Gordon	17-Apr	28-Apr	29-Jul	13-Aug	26-Sep	10-Aug	3-Sep	27-Sep	18-Aug	10-Sep	27-Sep
Grady	20-Apr	6-May	6-Aug	26-Aug	27-Sep	12-Aug	29-Sep	26-Sep	7-Sep	8-Sep	30-Sep
Greene	26-Apr	5-May	11-Aug	31-Aug	29-Sep	20-Aug	19-Sep	20-Sep	1-Sep	16-Sep	30-Sep
Gwinnett	14-Apr	22-Apr	21-Jul	20-Aug	21-Sep	1-Aug	23-Aug	30-Sep	10-Aug	4-Sep	30-Sep
Habersham	22-Apr	26-Apr	23-Jul	1-Sep	18-Sep	5-Aug	24-Aug	28-Sep	15-Aug	5-Sep	30-Sep
Hall	14-Apr	20-Apr	25-Jul	18-Aug	29-Sep	3-Aug	31-Aug	29-Sep	13-Aug	5-Sep	30-Sep
Hancock	25-Apr	6-May	4-Aug	16-Sep	27-Sep	29-Aug	25-Aug	29-Sep	24-Aug	18-Sep	20-Sep
Haralson	22-Apr	30-Apr	1-Aug	30-Aug	29-Sep	5-Aug	29-Aug	28-Sep	17-Aug	11-Sep	27-Sep
Harris	22-Apr	5-May	14-Aug	22-Aug	30-Sep	19-Aug	14-Sep	29-Sep	26-Aug	15-Sep	29-Sep
Hart	24-Apr	6-May	4-Aug	1-Sep	19-Sep	25-Aug	14-Sep	28-Sep	27-Aug	16-Sep	30-Sep
Heard	24-Apr	28-Apr	21-Aug	15-Aug	27-Sep	5-Aug	29-Aug	26-Sep	19-Aug	17-Sep	29-Sep
Henry	16-Apr	24-Apr	27-Jul	15-Aug	27-Sep	9-Aug	28-Aug	27-Sep	12-Aug	7-Sep	30-Sep
Houston	20-Apr	30-Apr	30-Jul	22-Aug	30-Sep	11-Aug	5-Sep	30-Sep	17-Aug	8-Sep	29-Sep
Irwin	1-May	2-May	25-Aug	1-Aug	25-Sep	31-Aug	10-Sep	28-Sep	20-Aug	28-Sep	23-Sep
Jackson	17-Apr	25-Apr	25-Jul	15-Aug	28-Sep	2-Aug	8-Sep	28-Sep	16-Aug	25-Aug	28-Sep
Jasper	23-Apr	25-Apr	18-Jul	19-Aug	26-Sep	13-Aug	11-Sep	30-Sep	13-Aug	3-Sep	29-Sep
Jeff Davis	23-Apr	8-May	17-Aug	30-Aug	19-Sep	28-Jul	3-Sep	26-Sep	22-Aug	20-Sep	30-Sep
Jefferson	28-Apr	13-May	15-Aug	13-Sep	23-Sep	19-Aug	12-Sep	29-Sep	2-Sep	20-Sep	12-Sep
Jenkins	26-Apr	9-May	13-Aug	4-Sep	25-Sep	9-Aug	3-Sep	27-Sep	11-Aug	23-Sep	29-Sep
Johnson	29-Apr	5-May	10-Aug	7-Sep	7-Sep	1-Sep	27-Sep	28-Sep	18-Aug	15-Sep	28-Sep

Jones	21-Apr	2-May	12-Aug	26-Aug	29-Sep	11-Aug	1-Sep	29-Sep	22-Aug	10-Sep	30-Sep
Lamar	23-Apr	2-May	30-Jul	30-Aug	23-Sep	8-Aug	9-Sep	29-Sep	16-Aug	2-Sep	26-Sep
Lanier	27-Apr	8-May	14-Aug	28-Aug	15-Sep	12-Aug	29-Sep	27-Sep	15-Aug	29-Sep	30-Sep
Laurens	29-Apr	7-May	9-Aug	17-Sep	25-Sep	2-Sep	31-Aug	27-Sep	28-Aug	13-Sep	29-Sep
Lee	22-Apr	2-May	14-Aug	3-Sep	30-Sep	12-Aug	1-Sep	27-Sep	26-Aug	24-Sep	30-Sep
Liberty	20-Apr	2-May	1-Aug	19-Aug	17-Sep	5-Aug	5-Sep	27-Sep	16-Aug	26-Aug	26-Sep
Lincoln	27-Apr	5-May	20-Aug	24-Aug	17-Sep	13-Aug	19-Aug	30-Sep	25-Aug	14-Sep	23-Sep
Long	21-Apr	30-Apr	30-Jul	18-Aug	1-Sep	3-Aug	9-Sep	27-Sep	18-Aug	13-Sep	25-Sep
Lowndes	24-Apr	30-Apr	5-Aug	1-Sep	27-Sep	23-Aug	28-Sep	30-Sep	15-Aug	22-Sep	29-Sep
Lumpkin	18-Apr	25-Apr	28-Jul	17-Aug	26-Sep	4-Aug	27-Aug	24-Sep	23-Aug	11-Sep	30-Sep
McDuffie	22-Apr	5-May	23-Aug	5-Sep	30-Sep	10-Aug	1-Sep	20-Sep	1-Sep	30-Sep	29-Sep
McIntosh	25-Apr	2-May	31-Jul	25-Aug	20-Sep	23-Aug	14-Sep	25-Sep	29-Aug	13-Sep	30-Sep
Macon	28-Apr	6-May	6-Aug	7-Sep	13-Sep	20-Aug	10-Sep	26-Sep	25-Aug	27-Sep	26-Sep
Madison	20-Apr	2-May	28-Jul	26-Aug	24-Sep	7-Aug	8-Sep	18-Sep	16-Aug	5-Sep	29-Sep
Marion	28-Apr	11-May	19-Aug	27-Aug	23-Sep	12-Sep	16-Sep	29-Sep	25-Aug	26-Sep	28-Sep
Meriwether	25-Apr	5-May	10-Aug	27-Aug	22-Sep	6-Aug	11-Sep	24-Sep	25-Aug	16-Sep	22-Sep
Miller	1-May	10-May	8-Aug	2-Sep	9-Sep	14-Aug	4-Sep	23-Sep	14-Aug	28-Sep	18-Sep
Mitchell	27-Apr	1-May	30-Jul	30-Aug	23-Sep	15-Aug	26-Aug	27-Sep	25-Aug	25-Sep	29-Sep
Monroe	21-Apr	30-Apr	4-Aug	9-Sep	27-Sep	17-Aug	7-Sep	27-Sep	18-Aug	14-Sep	25-Sep
Montgomery	30-Apr	9-May	28-Jul	16-Aug	23-Sep	20-Aug	11-Sep	30-Sep	14-Aug	14-Sep	18-Sep
Morgan	25-Apr	2-May	30-Jul	23-Aug	29-Sep	11-Aug	6-Sep	30-Sep	20-Aug	22-Sep	15-Sep
Murray	18-Apr	2-May	1-Aug	25-Aug	12-Sep	11-Aug	7-Sep	21-Sep	12-Aug	10-Sep	14-Sep
Muscogee*	23-Apr	8-May	7-Aug	8-Sep	30-Sep	28-Aug	18-Sep	30-Sep	4-Sep	30-Sep	30-Sep
Newton	16-Apr	23-Apr	27-Jul	18-Aug	28-Sep	30-Jul	26-Aug	30-Sep	8-Aug	6-Sep	30-Sep
Oconee	21-Apr	30-Apr	31-Jul	18-Aug	23-Sep	18-Aug	3-Sep	25-Sep	17-Aug	6-Sep	30-Sep
Oglethorpe	23-Apr	30-Apr	3-Aug	20-Aug	28-Sep	17-Aug	27-Aug	28-Sep	11-Aug	7-Sep	25-Sep
Paulding	16-Apr	24-Apr	24-Jul	20-Aug	19-Sep	6-Aug	2-Sep	24-Sep	11-Aug	4-Sep	26-Sep
Peach	21-Apr	8-May	2-Aug	26-Aug	28-Sep	18-Aug	11-Sep	29-Sep	22-Aug	13-Sep	24-Sep
Pickens	22-Apr	24-Apr	30-Jul	26-Aug	28-Sep	6-Aug	7-Sep	29-Sep	17-Aug	8-Sep	19-Sep
Pierce	29-Apr	7-May	18-Aug	6-Sep	27-Sep	26-Aug	29-Aug	30-Sep	29-Aug	14-Sep	26-Sep
Pike	23-Apr	25-Apr	31-Jul	23-Aug	26-Sep	11-Aug	30-Aug	26-Sep	8-Aug	26-Aug	29-Sep
Polk	20-Apr	2-May	1-Aug	20-Aug	30-Sep	8-Aug	5-Sep	25-Sep	19-Aug	7-Sep	29-Sep
Pulaski	27-Apr	2-May	10-Aug	10-Sep	27-Sep	15-Aug	29-Aug	29-Sep	23-Aug	4-Sep	29-Sep
Putnam	27-Apr	4-May	5-Aug	8-Sep	28-Sep	17-Aug	1-Sep	26-Sep	18-Aug	9-Sep	30-Sep
Quitman	7-May	25-May	11-Aug	29-Aug	15-Sep	5-Sep	20-Sep	29-Sep	29-Aug	20-Sep	26-Aug
Rabun	1-May	4-May	6-Aug	29-Aug	29-Sep	26-Aug	28-Sep	25-Sep	24-Aug	30-Sep	24-Sep
Randolph	9-May	15-May	10-Sep	25-Sep	18-Sep	5-Sep	29-Sep	23-Sep	20-Sep	29-Sep	29-Aug
Richmond	22-Apr	7-May	3-Aug	29-Aug	30-Sep	10-Aug	8-Sep	30-Sep	18-Aug	17-Sep	29-Sep
Rockdale	17-Apr	26-Apr	28-Jul	19-Aug	27-Sep	6-Aug	31-Aug	28-Sep	12-Aug	8-Sep	28-Sep
Schley	25-Apr	7-May	12-Aug	28-Aug	7-Sep	24-Aug	1-Sep	21-Sep	11-Sep	26-Sep	28-Sep
Screven	26-Apr	5-May	10-Aug	19-Aug	19-Sep	8-Aug	24-Sep	27-Sep	23-Aug	29-Sep	26-Sep
Seminole	1-May	16-May	2-Sep	25-Aug	29-Sep	25-Aug	14-Sep	27-Sep	14-Sep	25-Sep	30-Sep
Spalding	18-Apr	26-Apr	23-Jul	19-Aug	27-Sep	12-Aug	4-Sep	30-Sep	17-Aug	4-Sep	29-Sep

Stephens	24-Apr	2-May	31-Jul	2-Sep	29-Sep	4-Aug	7-Sep	30-Sep	22-Aug	5-Sep	30-Sep
Stewart	29-Apr	17-May	13-Aug	19-Sep	28-Sep	19-Aug	6-Sep	30-Sep	26-Aug	26-Sep	26-Sep
Sumter	29-Apr	3-May	18-Aug	28-Aug	28-Sep	27-Aug	10-Sep	29-Sep	31-Aug	16-Sep	28-Sep
Talbot	27-Apr	9-May	3-Aug	18-Aug	27-Sep	10-Aug	26-Sep	11-Sep	23-Aug	28-Sep	14-Sep
Taliaferro	28-Apr	30-Apr	11-Aug	19-Sep	25-Aug	17-Aug	5-Sep	30-Sep	19-Aug	27-Sep	23-Sep
Tattnall	24-Apr	26-Apr	9-Aug	22-Aug	30-Sep	3-Aug	13-Sep	27-Sep	26-Aug	23-Sep	30-Sep
Taylor	29-Apr	6-May	15-Aug	13-Sep	29-Sep	18-Aug	16-Sep	18-Sep	25-Aug	15-Sep	27-Sep
Telfair	29-Apr	30-Apr	12-Aug	12-Sep	30-Sep	14-Aug	22-Sep	22-Sep	23-Aug	17-Sep	28-Sep
Terrell	27-Apr	2-May	24-Aug	28-Aug	25-Sep	18-Aug	4-Sep	30-Sep	4-Sep	29-Sep	30-Sep
Thomas	24-Apr	28-Apr	5-Aug	8-Sep	29-Sep	11-Aug	19-Sep	28-Sep	1-Sep	29-Sep	29-Sep
Tift	26-Apr	7-May	16-Aug	17-Aug	29-Sep	28-Aug	6-Sep	27-Sep	2-Sep	11-Sep	27-Sep
Toombs	28-Apr	1-May	6-Aug	28-Aug	8-Sep	11-Aug	1-Sep	30-Sep	19-Aug	17-Sep	29-Sep
Towns	4-May	5-May	26-Aug	27-Sep	29-Sep	29-Aug	18-Aug	28-Sep	25-Aug	27-Sep	11-Sep
Treutlen	1-May	15-May	31-Jul	4-Sep	19-Sep	14-Aug	31-Aug	20-Sep	4-Sep	25-Sep	25-Sep
Troup	24-Apr	4-May	4-Aug	21-Aug	22-Sep	8-Aug	6-Sep	30-Sep	20-Aug	25-Sep	30-Sep
Turner	27-Apr	1-May	24-Aug	18-Aug	20-Sep	13-Aug	11-Sep	30-Sep	26-Aug	22-Sep	27-Sep
Twiggs	27-Apr	30-Apr	12-Aug	26-Aug	30-Sep	12-Aug	10-Sep	20-Sep	25-Aug	26-Sep	30-Sep
Union	4-May	5-May	12-Aug	31-Aug	22-Sep	21-Aug	5-Sep	30-Sep	22-Aug	6-Sep	26-Sep
Upson	26-Apr	2-May	6-Aug	21-Aug	25-Sep	10-Aug	19-Sep	29-Sep	24-Aug	21-Sep	29-Sep
Walker	22-Apr	30-Apr	16-Aug	31-Aug	29-Sep	19-Aug	19-Sep	30-Sep	29-Aug	17-Sep	30-Sep
Walton	17-Apr	25-Apr	26-Jul	19-Aug	30-Sep	3-Aug	2-Sep	30-Sep	12-Aug	8-Sep	27-Sep
Ware	28-Apr	9-May	2-Aug	30-Aug	29-Sep	12-Aug	28-Aug	29-Sep	1-Sep	26-Sep	29-Sep
Warren	2-May	10-May	26-Aug	22-Sep	28-Sep	6-Aug	12-Sep	29-Sep	23-Aug	23-Sep	26-Sep
Washington	3-May	9-May	13-Aug	15-Sep	25-Sep	30-Aug	19-Sep	24-Sep	1-Sep	8-Sep	30-Sep
Wayne	24-Apr	5-May	7-Aug	29-Aug	4-Sep	17-Aug	2-Sep	28-Sep	8-Aug	16-Sep	30-Sep
Webster	4-May	9-May	11-Aug	23-Sep	27-Sep	22-Aug	30-Aug	17-Sep	20-Aug	30-Sep	28-Sep
Wheeler	29-Apr	10-May	9-Aug	8-Sep	19-Sep	18-Aug	11-Sep	27-Sep	25-Aug	19-Sep	24-Sep
White	20-Apr	26-Apr	3-Aug	21-Aug	30-Sep	10-Aug	2-Sep	28-Sep	23-Aug	16-Sep	30-Sep
Whitfield	18-Apr	2-May	31-Jul	25-Aug	19-Sep	13-Aug	11-Sep	30-Sep	15-Aug	11-Sep	28-Sep
Wilcox	27-Apr	6-May	15-Aug	31-Aug	26-Sep	17-Aug	11-Sep	30-Sep	1-Sep	25-Sep	27-Sep
Wilkes	27-Apr	10-May	1-Sep	22-Sep	28-Sep	17-Sep	27-Sep	29-Sep	26-Aug	17-Sep	29-Sep
Wilkinson	25-Apr	28-Apr	5-Aug	1-Sep	24-Sep	19-Aug	1-Sep	30-Sep	10-Aug	21-Sep	18-Sep
Worth	27-Apr	27-Apr	8-Aug	5-Sep	29-Sep	12-Aug	15-Sep	28-Sep	7-Sep	18-Sep	29-Sep

Peak day in each county in the State of Georgia under all scenarios tested with urban counties highlighted in gray.

S2 Table. Peak infection percentage in each county.

County Name	NI	SC	1	2	3	4	5	6	7	8	9
Appling	1.69	0.90	0.47	0.43	0.23	0.51	0.36	0.26	0.44	0.41	0.21
Atkinson	1.70	1.14	0.57	0.43	0.27	0.58	0.40	0.26	0.56	0.44	0.24
Bacon	1.65	1.00	0.53	0.41	0.25	0.55	0.42	0.23	0.53	0.44	0.24
Baker	1.52	1.11	0.50	0.40	0.30	0.48	0.47	0.29	0.40	0.37	0.24
Baldwin	1.49	1.03	0.51	0.34	0.27	0.46	0.37	0.22	0.45	0.39	0.25
Banks	1.82	1.15	0.64	0.47	0.28	0.57	0.47	0.29	0.52	0.43	0.29
Barrow	2.06	1.26	0.60	0.44	0.28	0.57	0.44	0.30	0.59	0.45	0.29
Bartow	1.91	1.23	0.59	0.43	0.31	0.57	0.43	0.31	0.57	0.44	0.27
Ben Hill	1.47	0.93	0.42	0.43	0.26	0.46	0.45	0.26	0.50	0.40	0.17
Berrien	1.65	0.97	0.44	0.48	0.23	0.47	0.36	0.24	0.41	0.43	0.19
Bibb	1.67	1.00	0.47	0.40	0.29	0.47	0.39	0.24	0.48	0.39	0.22
Bleckley	1.73	1.07	0.51	0.40	0.28	0.54	0.45	0.28	0.53	0.43	0.19
Brantley	1.55	0.99	0.55	0.43	0.24	0.50	0.39	0.24	0.45	0.44	0.22
Brooks	1.52	0.90	0.41	0.37	0.23	0.47	0.35	0.21	0.45	0.41	0.22
Bryan	1.94	1.05	0.54	0.47	0.29	0.49	0.45	0.29	0.51	0.41	0.24
Bulloch	1.72	1.18	0.56	0.38	0.34	0.52	0.46	0.28	0.53	0.46	0.26
Burke	1.72	1.09	0.50	0.42	0.33	0.49	0.38	0.28	0.48	0.47	0.22
Butts	1.97	1.33	0.64	0.43	0.31	0.64	0.45	0.30	0.52	0.45	0.28
Calhoun	1.58	1.08	0.49	0.40	0.34	0.53	0.45	0.25	0.47	0.41	0.17
Camden	1.54	1.03	0.51	0.43	0.25	0.47	0.45	0.29	0.44	0.43	0.22
Candler	1.73	1.09	0.50	0.45	0.35	0.48	0.44	0.24	0.52	0.45	0.24
Carroll	1.89	1.20	0.55	0.42	0.28	0.57	0.44	0.28	0.53	0.41	0.23
Catoosa	1.66	1.02	0.47	0.40	0.26	0.53	0.38	0.27	0.49	0.40	0.16
Charlton	1.28	0.99	0.57	0.47	0.23	0.44	0.35	0.28	0.57	0.40	0.24
Chatham	1.69	1.05	0.51	0.43	0.30	0.53	0.43	0.26	0.52	0.37	0.22
Chattahoochee	1.65	1.10	0.57	0.57	0.31	0.52	0.44	0.25	0.57	0.51	0.14
Chattooga	1.70	1.13	0.53	0.38	0.25	0.49	0.37	0.26	0.63	0.46	0.21
Cherokee	2.08	1.25	0.58	0.44	0.31	0.59	0.44	0.32	0.57	0.47	0.27
Clarke	1.86	1.16	0.53	0.43	0.29	0.52	0.39	0.29	0.58	0.42	0.26
Clay	1.08	0.84	0.41	0.22	0.24	0.47	0.39	0.20	0.44	0.29	0.17
Clayton	2.08	1.27	0.59	0.46	0.28	0.59	0.45	0.30	0.56	0.44	0.28
Clinch	1.43	0.77	0.48	0.28	0.16	0.43	0.35	0.15	0.37	0.29	0.18
Cobb	2.00	1.26	0.57	0.42	0.29	0.57	0.44	0.30	0.56	0.43	0.27
Coffee	1.60	1.01	0.45	0.43	0.27	0.49	0.46	0.23	0.52	0.35	0.21
Colquitt	1.55	0.94	0.48	0.37	0.24	0.44	0.34	0.22	0.49	0.41	0.20
Columbia	1.73	1.04	0.50	0.39	0.25	0.54	0.40	0.28	0.49	0.39	0.25
Cook	1.62	0.98	0.49	0.35	0.26	0.49	0.36	0.23	0.46	0.38	0.21
Coweta	1.94	1.24	0.57	0.44	0.31	0.61	0.46	0.30	0.54	0.44	0.28
Crawford	1.65	1.04	0.50	0.42	0.28	0.54	0.41	0.27	0.53	0.42	0.19
Crisp	1.57	0.92	0.50	0.37	0.22	0.45	0.37	0.21	0.45	0.37	0.27
Dade	1.41	0.87	0.35	0.33	0.22	0.44	0.41	0.13	0.45	0.33	0.16
Dawson	1.89	1.23	0.58	0.42	0.28	0.63	0.42	0.32	0.56	0.44	0.25

Decatur	1.31	0.90	0.45	0.39	0.26	0.44	0.29	0.23	0.40	0.35	0.16
DeKalb	1.94	1.25	0.57	0.43	0.28	0.56	0.43	0.29	0.54	0.42	0.27
Dodge	1.63	1.17	0.48	0.41	0.27	0.49	0.42	0.26	0.47	0.39	0.23
Dooly	1.51	1.05	0.62	0.48	0.24	0.50	0.48	0.30	0.48	0.43	0.23
Dougherty	1.57	0.95	0.43	0.30	0.25	0.43	0.38	0.22	0.42	0.38	0.20
Douglas	2.06	1.25	0.58	0.45	0.30	0.58	0.44	0.29	0.57	0.46	0.28
Early	1.27	0.87	0.43	0.29	0.16	0.38	0.33	0.19	0.34	0.31	0.18
Echols	1.86	1.17	0.57	0.52	0.37	0.61	0.46	0.28	0.57	0.53	0.24
Effingham	1.81	1.12	0.57	0.49	0.30	0.57	0.46	0.32	0.58	0.42	0.26
Elbert	1.42	0.98	0.51	0.37	0.34	0.46	0.36	0.18	0.52	0.39	0.21
Emanuel	1.53	0.93	0.56	0.38	0.20	0.47	0.36	0.19	0.54	0.50	0.19
Evans	1.86	1.17	0.50	0.43	0.35	0.54	0.50	0.24	0.52	0.42	0.26
Fannin	1.31	0.81	0.40	0.34	0.16	0.36	0.30	0.20	0.42	0.31	0.12
Fayette	1.91	1.22	0.56	0.43	0.30	0.58	0.43	0.27	0.53	0.43	0.26
Floyd	1.76	1.19	0.57	0.44	0.25	0.54	0.36	0.29	0.50	0.41	0.21
Forsyth	2.10	1.28	0.63	0.45	0.28	0.60	0.48	0.31	0.60	0.46	0.26
Franklin	1.59	1.02	0.51	0.42	0.30	0.48	0.37	0.26	0.59	0.45	0.18
Fulton	1.91	1.20	0.55	0.41	0.27	0.54	0.42	0.28	0.53	0.41	0.26
Gilmer	1.82	1.02	0.51	0.43	0.24	0.49	0.38	0.24	0.54	0.43	0.23
Glascock	1.84	1.08	0.66	0.43	0.32	0.41	0.39	0.23	0.51	0.42	0.30
Glynn	1.58	0.90	0.48	0.36	0.24	0.48	0.36	0.23	0.42	0.43	0.20
Gordon	1.87	1.23	0.58	0.41	0.35	0.62	0.45	0.35	0.59	0.45	0.26
Grady	1.53	0.90	0.44	0.34	0.23	0.46	0.37	0.19	0.46	0.35	0.22
Greene	1.42	0.81	0.46	0.33	0.19	0.33	0.25	0.16	0.42	0.32	0.16
Gwinnett	2.16	1.34	0.60	0.45	0.28	0.59	0.45	0.30	0.57	0.43	0.29
Habersham	1.80	1.11	0.51	0.39	0.26	0.52	0.41	0.26	0.54	0.43	0.23
Hall	1.94	1.24	0.54	0.38	0.29	0.54	0.46	0.30	0.54	0.43	0.29
Hancock	1.40	0.95	0.63	0.37	0.27	0.42	0.32	0.24	0.51	0.39	0.25
Haralson	1.74	1.34	0.55	0.50	0.35	0.57	0.44	0.25	0.57	0.47	0.27
Harris	1.51	0.96	0.46	0.41	0.27	0.47	0.38	0.22	0.44	0.39	0.19
Hart	1.58	0.99	0.51	0.37	0.27	0.45	0.38	0.27	0.56	0.38	0.19
Heard	1.81	1.15	0.48	0.46	0.28	0.60	0.50	0.33	0.56	0.42	0.26
Henry	2.12	1.31	0.62	0.44	0.30	0.59	0.45	0.28	0.58	0.46	0.29
Houston	1.74	1.11	0.52	0.42	0.28	0.54	0.44	0.28	0.53	0.46	0.23
Irwin	1.47	0.92	0.52	0.37	0.29	0.45	0.42	0.22	0.50	0.37	0.20
Jackson	2.05	1.18	0.58	0.44	0.31	0.56	0.46	0.28	0.56	0.41	0.25
Jasper	1.87	1.28	0.59	0.39	0.31	0.61	0.44	0.35	0.55	0.50	0.20
Jeff Davis	1.60	1.01	0.47	0.47	0.21	0.51	0.44	0.25	0.51	0.38	0.22
Jefferson	1.44	0.97	0.49	0.38	0.18	0.40	0.32	0.19	0.40	0.41	0.17
Jenkins	1.71	0.95	0.60	0.38	0.43	0.52	0.54	0.26	0.53	0.44	0.23
Johnson	1.43	0.98	0.55	0.42	0.22	0.47	0.34	0.23	0.49	0.48	0.16
Jones	1.71	1.11	0.58	0.41	0.30	0.50	0.42	0.31	0.56	0.43	0.27
Lamar	1.93	1.11	0.57	0.42	0.28	0.55	0.40	0.30	0.50	0.41	0.25

Lanier	1.62	1.15	0.47	0.43	0.23	0.53	0.41	0.27	0.52	0.43	0.26
Laurens	1.54	0.92	0.48	0.42	0.22	0.48	0.35	0.27	0.51	0.36	0.22
Lee	1.70	1.03	0.47	0.37	0.31	0.50	0.45	0.28	0.46	0.39	0.19
Liberty	1.92	1.22	0.62	0.51	0.32	0.59	0.44	0.29	0.58	0.45	0.27
Lincoln	1.34	0.84	0.52	0.40	0.18	0.47	0.43	0.27	0.52	0.43	0.20
Long	1.96	1.31	0.67	0.56	0.33	0.61	0.47	0.33	0.61	0.48	0.29
Lowndes	1.51	0.99	0.42	0.40	0.26	0.48	0.35	0.27	0.50	0.38	0.24
Lumpkin	1.75	1.16	0.51	0.46	0.31	0.65	0.43	0.33	0.51	0.47	0.28
McDuffie	1.60	0.99	0.45	0.37	0.25	0.46	0.43	0.23	0.52	0.42	0.27
McIntosh	1.44	1.03	0.55	0.44	0.25	0.49	0.43	0.23	0.45	0.43	0.21
Macon	1.37	1.04	0.55	0.43	0.26	0.47	0.41	0.26	0.40	0.40	0.25
Madison	1.76	1.11	0.55	0.46	0.29	0.51	0.42	0.29	0.61	0.43	0.26
Marion	1.60	0.94	0.58	0.37	0.29	0.45	0.41	0.22	0.41	0.39	0.19
Meriwether	1.77	1.08	0.51	0.40	0.26	0.48	0.41	0.28	0.49	0.44	0.22
Miller	1.21	0.84	0.38	0.32	0.17	0.33	0.32	0.20	0.44	0.34	0.17
Mitchell	1.52	0.93	0.49	0.39	0.24	0.46	0.39	0.21	0.48	0.40	0.17
Monroe	1.74	1.12	0.54	0.40	0.30	0.52	0.43	0.29	0.55	0.44	0.25
Montgomery	1.62	1.02	0.50	0.42	0.28	0.45	0.43	0.23	0.51	0.35	0.25
Morgan	1.72	1.03	0.53	0.45	0.24	0.57	0.39	0.25	0.50	0.41	0.23
Murray	1.78	1.22	0.61	0.47	0.32	0.60	0.44	0.31	0.56	0.47	0.23
Muscogee*	1.55	0.91	0.44	0.35	0.23	0.39	0.34	0.20	0.40	0.35	0.18
Newton	1.99	1.31	0.62	0.44	0.30	0.60	0.43	0.30	0.58	0.43	0.28
Oconee	1.99	1.14	0.55	0.43	0.33	0.56	0.43	0.31	0.62	0.46	0.26
Oglethorpe	1.60	1.07	0.60	0.40	0.31	0.52	0.41	0.26	0.54	0.36	0.27
Paulding	2.15	1.32	0.61	0.48	0.32	0.57	0.46	0.32	0.57	0.45	0.28
Peach	1.69	1.05	0.48	0.43	0.27	0.53	0.43	0.31	0.54	0.46	0.26
Pickens	1.85	1.16	0.58	0.45	0.26	0.54	0.39	0.31	0.51	0.42	0.21
Pierce	1.47	0.80	0.54	0.37	0.19	0.48	0.34	0.23	0.49	0.31	0.19
Pike	1.84	1.18	0.55	0.47	0.31	0.55	0.46	0.31	0.59	0.41	0.23
Polk	1.81	1.16	0.59	0.40	0.30	0.55	0.40	0.29	0.59	0.42	0.23
Pulaski	1.75	1.15	0.52	0.50	0.32	0.62	0.45	0.34	0.50	0.44	0.31
Putnam	1.56	0.96	0.49	0.39	0.26	0.43	0.40	0.26	0.49	0.40	0.23
Quitman	1.14	0.81	0.29	0.26	0.12	0.34	0.32	0.20	0.47	0.20	0.18
Rabun	1.30	0.83	0.40	0.30	0.19	0.44	0.29	0.21	0.34	0.29	0.14
Randolph	1.13	0.62	0.28	0.17	0.18	0.43	0.21	0.12	0.24	0.21	0.14
Richmond	1.59	1.00	0.46	0.39	0.28	0.49	0.37	0.26	0.48	0.37	0.23
Rockdale	2.04	1.35	0.59	0.44	0.29	0.59	0.46	0.31	0.56	0.44	0.29
Schley	1.52	0.99	0.43	0.47	0.22	0.62	0.40	0.30	0.49	0.44	0.29
Screven	1.68	0.96	0.48	0.40	0.31	0.51	0.53	0.20	0.51	0.35	0.20
Seminole	1.38	0.89	0.41	0.40	0.23	0.52	0.28	0.17	0.33	0.32	0.15
Spalding	1.84	1.17	0.57	0.46	0.29	0.50	0.41	0.30	0.56	0.44	0.24
Stephens	1.53	1.03	0.54	0.38	0.25	0.52	0.39	0.29	0.53	0.40	0.15
Stewart	1.47	1.06	0.61	0.49	0.20	0.52	0.34	0.23	0.44	0.37	0.16

Sumter	1.59	0.97	0.44	0.35	0.24	0.51	0.35	0.27	0.45	0.42	0.19
Talbot	1.43	1.01	0.41	0.37	0.22	0.46	0.45	0.20	0.48	0.48	0.14
Taliaferro	1.39	1.01	0.51	0.65	0.22	0.45	0.47	0.24	0.56	0.49	0.31
Tattnall	1.81	1.12	0.60	0.52	0.33	0.62	0.46	0.29	0.54	0.38	0.23
Taylor	1.63	1.13	0.50	0.48	0.24	0.53	0.39	0.26	0.45	0.45	0.17
Telfair	1.46	1.07	0.54	0.48	0.26	0.50	0.43	0.33	0.54	0.40	0.24
Terrell	1.49	0.90	0.47	0.35	0.27	0.48	0.41	0.20	0.50	0.36	0.19
Thomas	1.46	0.82	0.41	0.34	0.21	0.47	0.33	0.20	0.45	0.35	0.18
Tift	1.68	0.96	0.51	0.41	0.29	0.45	0.38	0.24	0.49	0.37	0.21
Toombs	1.49	0.95	0.52	0.42	0.19	0.43	0.36	0.26	0.51	0.35	0.19
Towns	1.08	0.67	0.26	0.30	0.16	0.37	0.18	0.08	0.31	0.30	0.13
Treutlen	1.37	0.92	0.52	0.42	0.24	0.50	0.38	0.26	0.66	0.40	0.23
Troup	1.69	1.07	0.49	0.41	0.26	0.52	0.41	0.24	0.50	0.45	0.19
Turner	1.60	1.14	0.57	0.42	0.23	0.53	0.45	0.25	0.51	0.45	0.23
Twiggs	1.58	1.08	0.51	0.44	0.31	0.52	0.47	0.26	0.58	0.47	0.21
Union	1.17	0.73	0.33	0.30	0.15	0.40	0.22	0.15	0.31	0.23	0.16
Upson	1.65	1.04	0.49	0.36	0.21	0.55	0.40	0.25	0.51	0.40	0.22
Walker	1.65	0.99	0.46	0.40	0.26	0.46	0.38	0.23	0.46	0.42	0.17
Walton	1.98	1.27	0.62	0.44	0.29	0.59	0.41	0.27	0.56	0.45	0.25
Ware	1.50	0.86	0.49	0.43	0.21	0.47	0.38	0.24	0.47	0.27	0.20
Warren	1.40	0.98	0.53	0.36	0.21	0.53	0.43	0.25	0.44	0.40	0.26
Washington	1.52	0.98	0.53	0.42	0.18	0.45	0.43	0.20	0.48	0.40	0.22
Wayne	1.69	1.06	0.50	0.46	0.29	0.58	0.43	0.30	0.48	0.43	0.26
Webster	1.26	0.87	0.42	0.41	0.27	0.40	0.37	0.31	0.41	0.38	0.24
Wheeler	1.71	1.20	0.58	0.53	0.25	0.56	0.48	0.26	0.48	0.48	0.29
White	1.65	1.06	0.46	0.40	0.28	0.56	0.44	0.30	0.54	0.38	0.25
Whitfield	1.79	1.21	0.59	0.42	0.29	0.57	0.43	0.31	0.55	0.43	0.22
Wilcox	1.57	1.02	0.52	0.46	0.23	0.50	0.40	0.24	0.49	0.39	0.22
Wilkes	1.31	0.74	0.38	0.33	0.14	0.36	0.31	0.21	0.48	0.33	0.14
Wilkinson	1.63	0.94	0.57	0.40	0.26	0.58	0.41	0.22	0.51	0.40	0.24
Worth	1.50	0.95	0.48	0.36	0.25	0.51	0.46	0.24	0.47	0.42	0.20

Peak infection percentage in each county in the State of Georgia under all scenarios tested with urban counties highlighted in gray.

References

1. U.S. Census Bureau. American Community Survey, 2017 American Community Survey 5-year Estimates. 2017.

2. The New York Times. Coronavirus (Covid-19) Data in the United States. The New York Times; 2020.
3. U.S. Census Bureau. Census Summary File 1. U.S. Census Bureau; 2010.
4. U.S. Census Bureau. Census Transportation Planning Products, 5-year data. U.S. Census Bureau; 2016.
5. Georgia Department of Public Health. Georgia Department of Public Health COVID-19 Daily Status Report 2020 [updated 14 April 2020; cited 2020 14 April 2020]. Available from: https://dph.georgia.gov/covid-19-daily-status-report.
6. Wu JT, Riley S, Fraser C, Leung GM. Reducing the Impact of the Next Influenza Pandemic Using Household-Based Public Health Interventions. PLOS Medicine. 2006;3(9):e361. doi: 10.1371/journal.pmed.0030361.
7. Shi P, Keskinocak P, Swann JL, Lee BY. The impact of mass gatherings and holiday traveling on the course of an influenza pandemic: a computational model. BMC Public Health. 2010;10(1):778. Epub 2010/12/24. doi: 10.1186/1471-2458-10-778. PubMed PMID: 21176155; PubMed Central PMCID: PMCPMC3022852.
8. Ekici A, Keskinocak P, Swann JL. Modeling Influenza Pandemic and Planning Food Distribution. Manufacturing & Service Operations Management. 2014;16(1):11-27. doi: 10.1287/msom.2013.0460.
9. Li Z, Swann JL, Keskinocak P. Value of inventory information in allocating a limited supply of influenza vaccine during a pandemic. PLoS One. 2018;13(10):e0206293. doi: 10.1371/journal.pone.0206293.
10. CDC. COVID-19 Pandemic Planning Scenarios 2020 [5 June 2020]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/hcp/planning-scenarios.html.
11. U.S. Census Bureau. Methods of Apportionment 2019 [14 June 2020]. Available from: https://www.census.gov/history/www/reference/apportionment/methods_of_apportionment.html.
12. Georgia Department of Public Health. Regional healthcare coalitions 2018 [24 July 2020]. Available from: https://northcentralhealthdistrict.org/regional-healthcare-coalitions/.
13. The State of Georgia. Executive Order to Ensure a Safe & Healthy Georgia: The State of Georgia; 2020 [cited 2020 24 April 2020]. Available from: https://gov.georgia.gov/document/2020-executive-order/04022001/download.
14. Georgia Department of Economic Development. Governor Kemp's Statewide Executive Order: Guidelines for Businesses Georgia Department of Economic Development2020 [cited 2020 24 April 2020]. Available from: https://www.georgia.org/covid19bizguide.
15. StreetLight Data Inc. Understand the impact of COVID-19 on traffic, travel patterns, toll revenues and more [cited 2020]. Available from: https://www.streetlightdata.com/covid-transportation-metrics/.
16. CDC COVID-19 Response Team. Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) — United States, February 12–March 16, 2020. Morbidity and Mortality Weekly Report (MMWR): CDC, 18 March 2020. Report No.
17. CDC. Commercial Laboratory Seroprevalence Survey Data [Online]. 2020 [updated 26 June 2020]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/commercial-lab-surveys.html.
18. Weinberger DM, Chen J, Cohen T, Crawford FW, Mostashari F, Olson D, et al. Estimation of Excess Deaths Associated With the COVID-19 Pandemic in the United States, March to May 2020. JAMA Internal Medicine. 2020. doi: 10.1001/jamainternmed.2020.3391.
19. U.S. Census Bureau. Cartographic Boundary Files - Shapefile. https://www.census.gov/geographies/mapping-files/time-series/geo/carto-boundary-file.html 2018.