Analysis of COVID-19 Trends in the United States

W. Capra Data Analytics Team

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Introduction

Across the globe, the COVID-19 pandemic has quickly changed business landscapes across all verticals in unprecedented fashions. Cases and deaths are accelerating, as well as business closures and job losses. In an effort to keep W. Capra, our clients, and other external partners up-to-date on the latest trends across the United States, we publish this report on state-by-state COVID-19 data trends. Our goal is to identify:

- How states' handlings of COVID-19 develop over time
- Which states are approaching "containment," and
- What environmental, regulatory, and cultural factors drive containment

As we look at state-by-state analyses, there are many factors to keep in mind, such as population density, success at social distancing, healthcare networks, lock-down dates, weather, etc. All of these appear to have some effect on the transmission and successful containment of the disease.

Trends we consider to be important indicators as to how the pandemic is affecting states:

- Testing Volume and Capacity: Indicates the accessibility of testing and the state's ability to meet testing demand
- Case Velocity: Number of new cases reported each day
- Death Velocity: Number of new deaths reported each day
- Positive Case Rate: Percentage of tests performed that end in a positive result. Testing rates are skewed towards symptomatic patients due to testing policies. This helps to express success of controlling the transmission of the disease
- Disease Death Rate: Percentage of positive cases that lead to death. This is driven by the performance of healthcare systems and the general health of underlying population.
- Case Acceleration: Change in Case Velocity. If Case Acceleration is positive, a state is reporting a greater number of new cases day over day. If negative, Case Velocity is decreasing, and the state is reporting a lesser number of new cases day over day.
- Death Acceleration: Change in Death Velocity. If Death Acceleration is positive, a state is reporting a greater number of new deaths day over day. If negative, Death Velocity is decreasing, and the state is reporting a lesser number of new deaths day over day.

Disclaimer

The W. Capra Data Analytics Team is comprised of data scientists and analysts. We are not medical professionals nor policy makers. As such, this report is not to be construed as providing guidance. We are data-driven professionals that are interested in seeing how we can leverage data to understand the trajectory of states in the COVID-19 pandemic. As such, we advise that you make your own assessment as to actions to take based on this information. Please carefully consider local laws and follow the advice of medical professionals and policy makers at local and national levels.

Data Sources

Data has been gathered from the following sources. The most recent observations are from May 05.

- The COVID Tracking Project, https://covidtracking.com/
- New York Times COVID Data, https://github.com/nytimes/covid-19-data
- COVID-19 Community Mobility Reports, Google, https://www.google.com/covid19/mobility/
- Annual Estimates of the Resident Population for Counties in the United States, U.S. Census Bureau, https://www.census.gov/data/datasets/time-series/demo/popest/2010s-counties-total.html#par_textimage_739801612
- Normalized Maximum Heatmap by Sergy Bryl', https://analyzecore.com/2020/05/04/the-spread-of-covid-19-across-countries-visualization-with-r/

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Benchmarks

We understand that states are experiencing and will pass through various states of their handling of the pandemic. Obviously, positive outcomes for states occur as new daily cases and deaths begin to drop; this is commonly referred to as the "peak" for a particular region. However, we are also interested in tracking the acceleration rates of cases and deaths. We see that consistent reduction in acceleration is an early indicator of positive outcomes. From global trends, we expect velocity and acceleration rates (both new cases and deaths) to follow a trend similar to the one depicted in Figure 1.

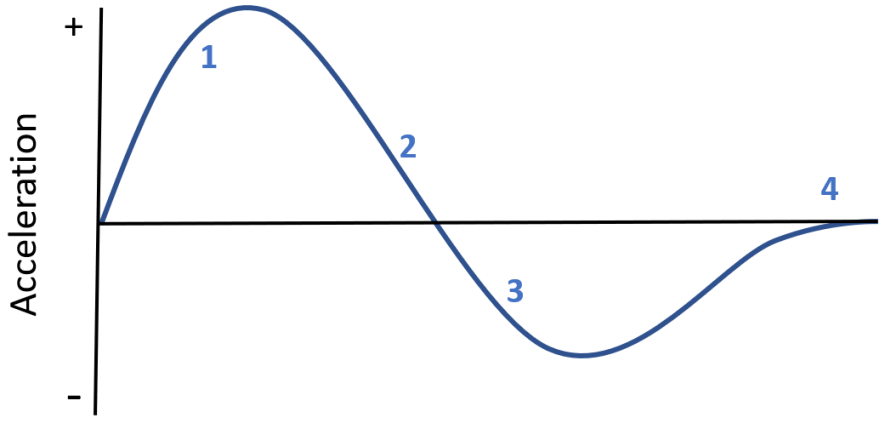

Figure 1: Acceleration Curve

- 1 - Exponential Stage: New daily cases and deaths are increasing. Velocity and acceleration are positive.
- 2 - Linear Stage: New daily cases and deaths are flat. Velocity is positive while acceleration is approaching zero.
- 3 - Improvement Stage: New daily cases and deaths are decreasing. Velocity is decreasing while acceleration is negative.
- 4 - Containment Stage: Zero or few new daily cases and deaths. Velocity is near zero, while acceleration is slightly negative or zero.

Later in the report we will take a closer look at measuring and ranking accelerations. First, let's take a look at some basic rates across the country to help form the foundations of how to look at and discuss COVID-19.

Analysis

Testing Rates

Inconsistent testing data reinforces that testing is still not being performed at the paces desired by most states. The ability to test wide populations quickly will be crucial to not only achieving containment but also maintaining it. Initial decelerations of cases and deaths is good sign; however, until states have the capacity to test people at the appropriate scales, states will continue to be at risk of resurgences in COVID-19 cases/deaths.

Currently, 2.31% of the entire US population has been tested. This is very small from a sampling perspective, but not too far off from the rest of the world. Keep in mind that this is measuring number of tests administered, so it is likely that the true population rate is lower as some individuals have been tested more than once. The distribution of these tests is also very unevenly distributed.

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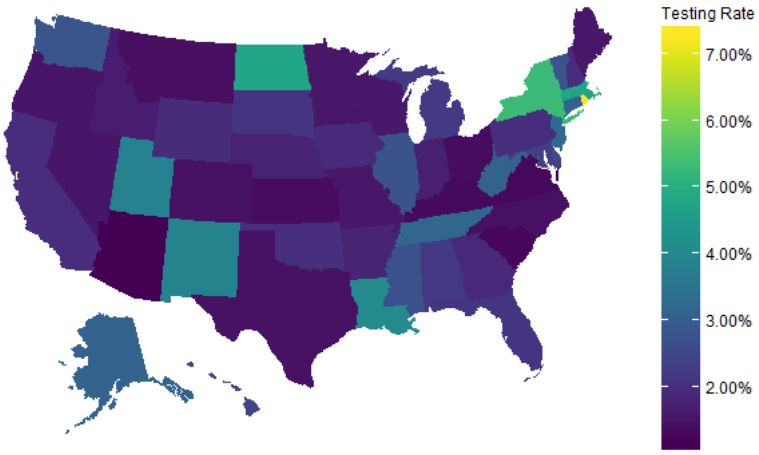

Figure 2: Testing Rates

Positive Case Rates

Case rates, or the rate of tests which are positive for COVID-19, vary across the US and reach higher than 45%. A large driver behind this trend is self-quarantine directives: Patients with symptoms are told to stay home as long as the symptoms are manageable. Once severe enough, patients are told to see a doctor and get a test. The true rate is probably much lower, but because we cannot test every individual at this time, this is an unknown.

In the heatmap below (Figure 3), we can see that NY, NJ and CT have high positive test rates. This aligns with macro-level trends as this region represents the US "epicenter," where population density is quite high and transmission rates tend to be higher as well.

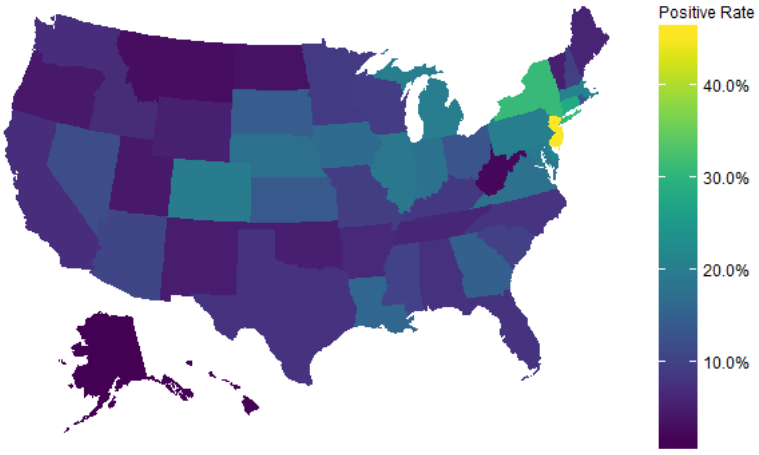

Figure 3: Positive Rates

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Disease Death Rates

The Disease Death Rate, or the Case Fatality Rate, is currently 5.5% for the United States. It tends to be higher for populations with comorbidities and advanced ages. In the heatmap below (Figure 4), there are a few interesting points. MI is currently experiencing the highest rate at 9.4%, while MN, LA (Louisiana) and CT are close behind. WA used to have a higher death rate was the disease progressed through elderly populations early on, but has since spread more evenly across the population.

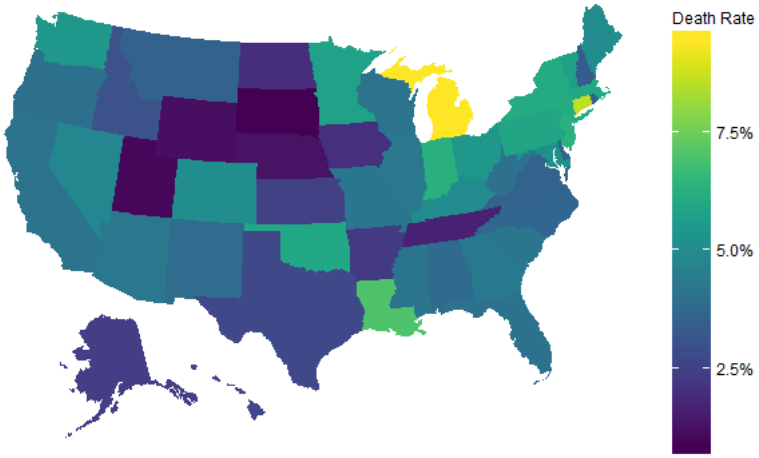

Figure 4: Death Rates

Measuring Acceleration

The rate at which new observations are growing each day represents the acceleration metrics. We use this to measure states' progressions along the disease growth curve, and these metrics will help flag states that are starting to slow in growth and reverse course towards containment. To measure acceleration, we first need to smooth out the data as reporting on tests, cases, and deaths is not linear. It is common for states to see large daily swings in tests, cases, and velocities that are caused by a variety of unknown forces. To solve for this issue, we apply Weighted Moving Averages ("WMA") velocities and accelerations. The smoothing period for velocity WMA is set to fourteen (14) days and acceleration WMA is currently set to seven (7) days. This technique gives more weight to recent observations. Here is an example on how the WMA approach changes the trend for NY.

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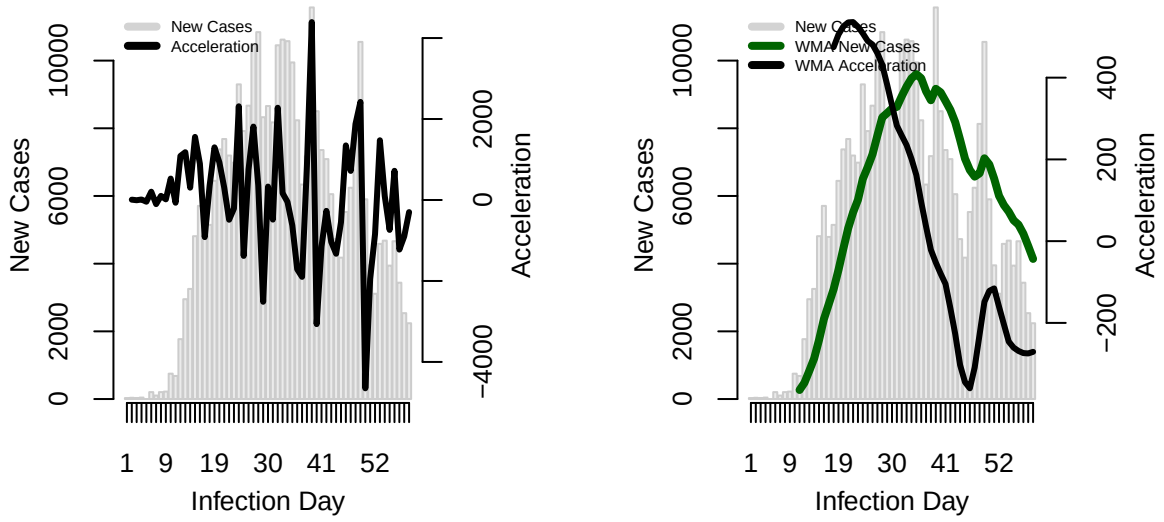

Figure 5: Noisy Data vs. Weighted Moving Average for NY case data

Acceleration in the United States

As a whole, the United States ("US") appears to be peaking in terms of cases with a new cases flattening over the past month, while deaths are starting to decelerate a bit. One healthy trend here is that testing is starting to accelerate again, while cases are still flat. There is a lag time between testing and receiving results (and secondly, when the case gets reported), but we want to see significant growth in tests with cases growing at a slower rate. If testing capacity is opening up, hopefully we can start testing patients with less severe symptoms, and eventually asymptomatic individuals as well.

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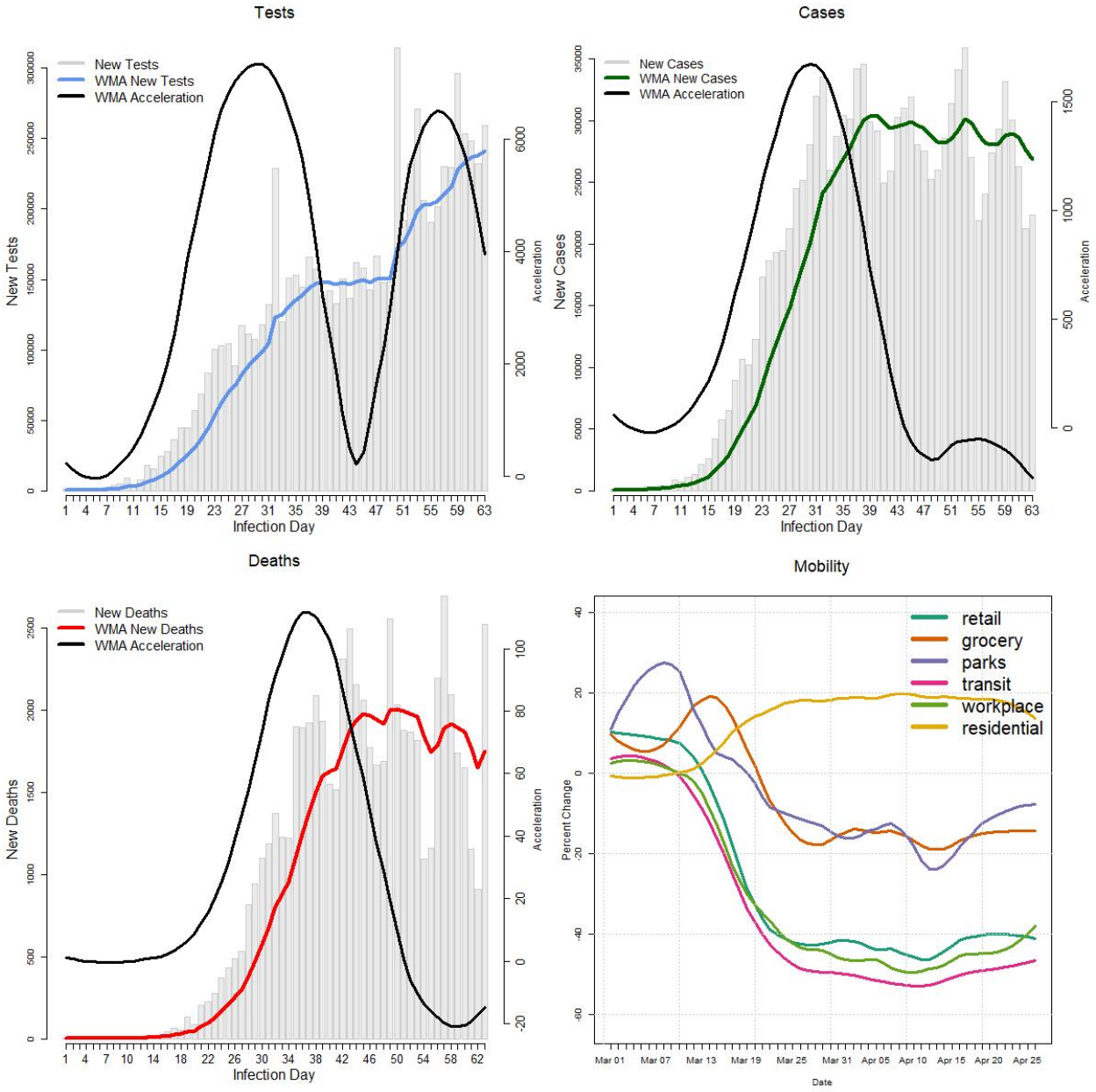
US



State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
US	2020-03-03	7544328	1195605	65307	15.8	5.5	22348	2527

Figure 6: United Sates Acceleration and Mobility Data

Acceleration charts for all states for tests, cases, and deaths can be found in the appendix.

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State Comparisons

We now compare the velocity and accelerations of tests, cases, and deaths on a per-capita basis using 100,000 to normalize. The following graphs show the outliers for each category after plotting both the velocity and acceleration of the most recent observation. Velocity is a weighted moving average of new daily observations, while acceleration is the rate of change of the velocity. We would expect states to follow this path: going from the origin to top-right (Stage 1 of Figure 1), then to top-left as acceleration turns negative (Stage 2 and 3), and back down to the origin as the velocity of new observations shrinks to zero (Stage 4).

Testing

With testing, most states are increasing capacity while some are starting to decelerate. A week ago, almost all states were increasing testing.

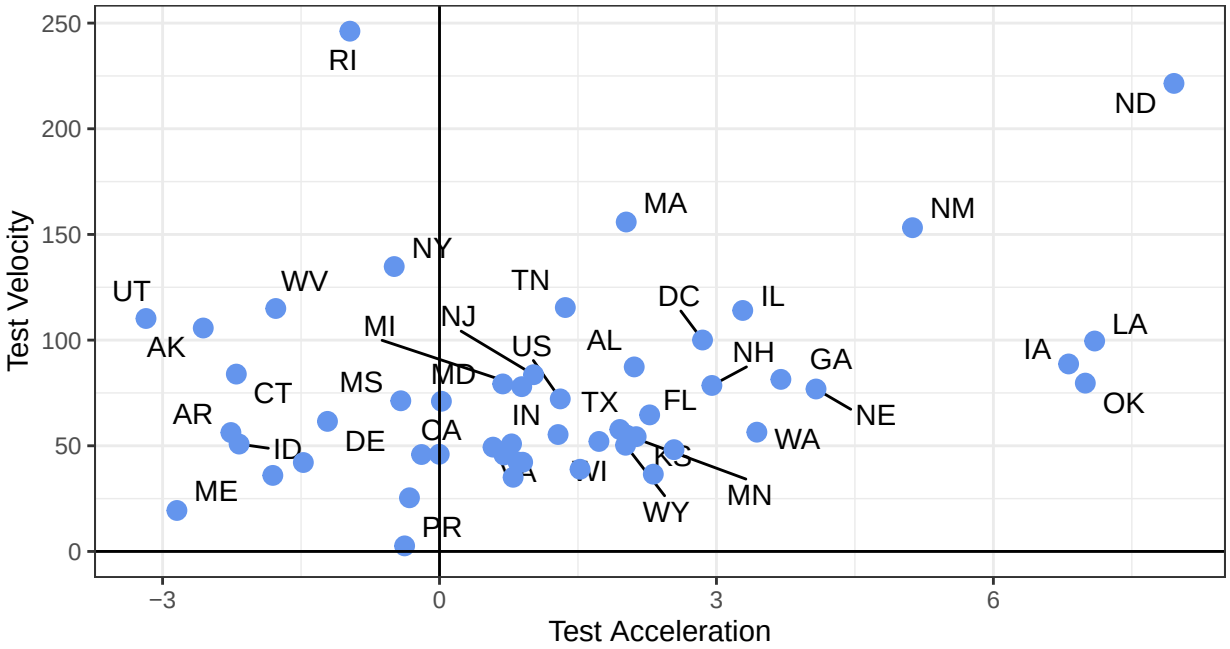

Figure 7: Test Acceleration and Velocity

Cases

For cases, New England stands out as quickly entering an improving phase, indicating that they are starting to get things under control. NY, RI, NJ, MA, CT, and DE are all decelerating in terms of cases, while DC and MD still slightly accelerating. The Midwest, however, appears to still be going through a tough time, with IA, IL, and NE accelerating. With the recent surge in testing, we expect to see new cases accelerate for some states.

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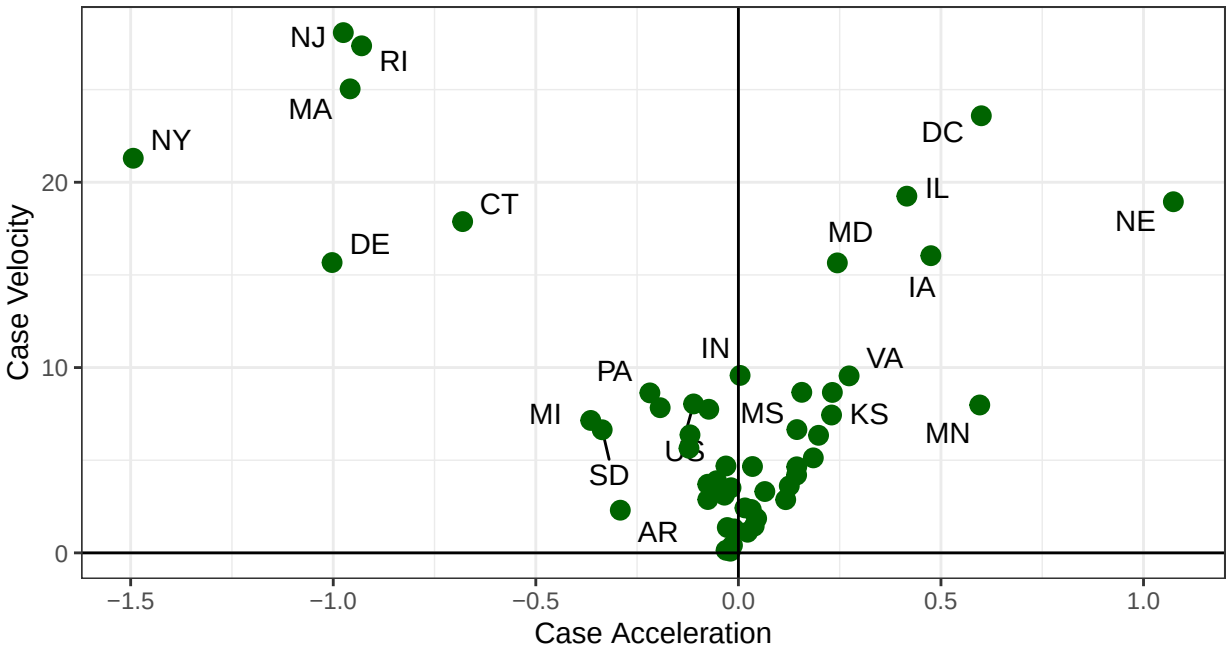

Figure 8: Case Acceleration and Velocity

Deaths

Many states are still experiencing acceleration in deaths, but NY and CT are experiencing a remarkable slow-down. Even though Case Velocities are dropping, we would expect a peak in Death Velocities to come 5-7 days following peaks in Case Velocities. NJ, MA, PA and RI look to be close behind NY.

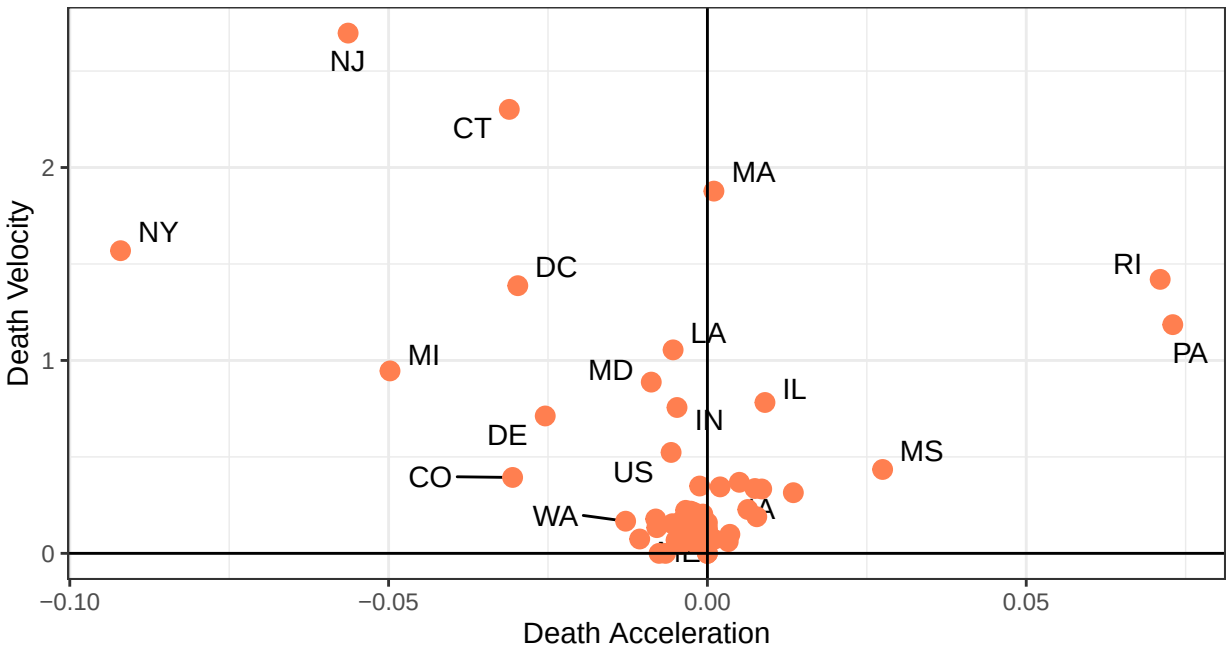

Figure 9: Death Acceleration and Velocity

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We can now assign states to each stage of the acceleration curve using new cases. The main driver for assigning these categories is per-capita WMA acceleration, taking into account the history of acceleration for each state:

- Exponential: Acceleration is positive. If acceleration nearing zero, acceleration must be at maximum (or else is considered "Linear")
- Linear: Acceleration is positive but nearing zero. Acceleration is not at its maximum (or else is considered "Exponential")
- Improving: Acceleration is negative.
- Containment: Acceleration is near zero, is not the minimum or maximum, and must have low velocity (i.e. New Cases have peaked).

From this, we can see some macro trends. The Midwest is currently struggling, while New England is getting things under control. A majority of states are in the Linear stage as cases are either flat or growing slightly.

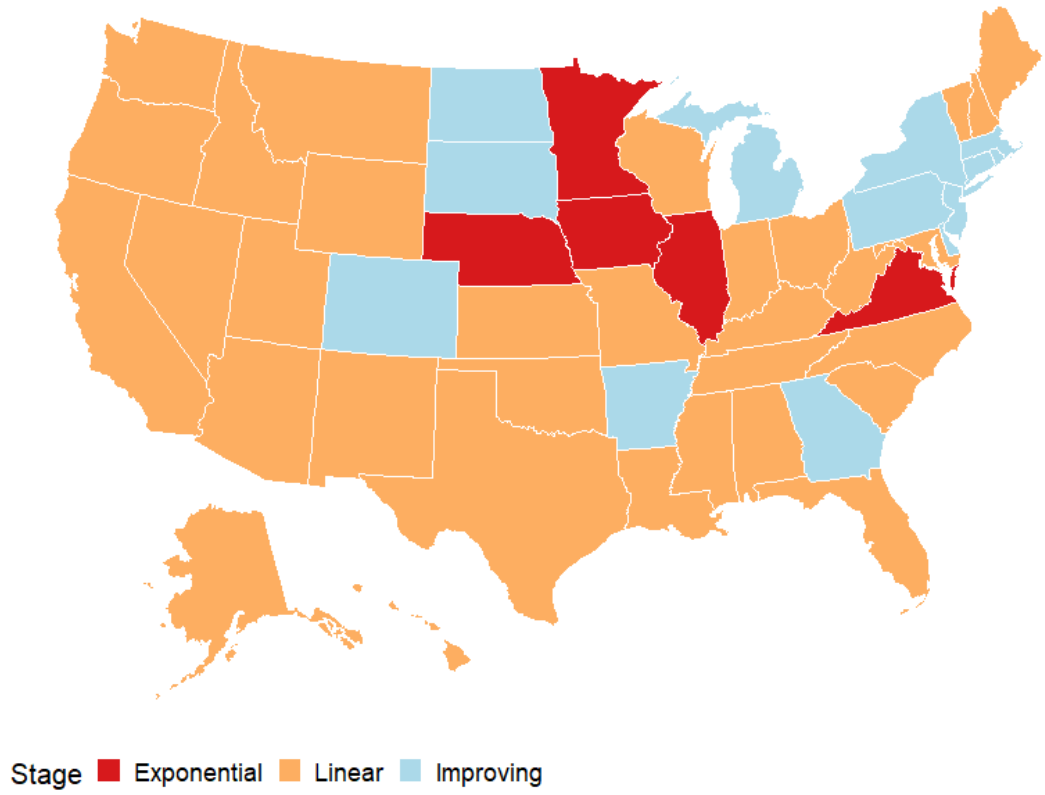

Figure 10: Case Acceleration Stage by State

Another helpful tool for determining progression is to normalize Case Velocity against the maximum seen in each state (Figure 17). In the following plot we compare all states, ranked by how recently they saw a max in their WMA Case Velocity. States like VT and LA hit their maximum in early April, and have quickly improved. States with lots of red and orange tiles are still struggling to move away from the maximum. Some examples of this are ME, who hit their maximum early on but still quite orange today, and the United States overall, which has stayed relatively flat since hitting the maximum around April 15th.

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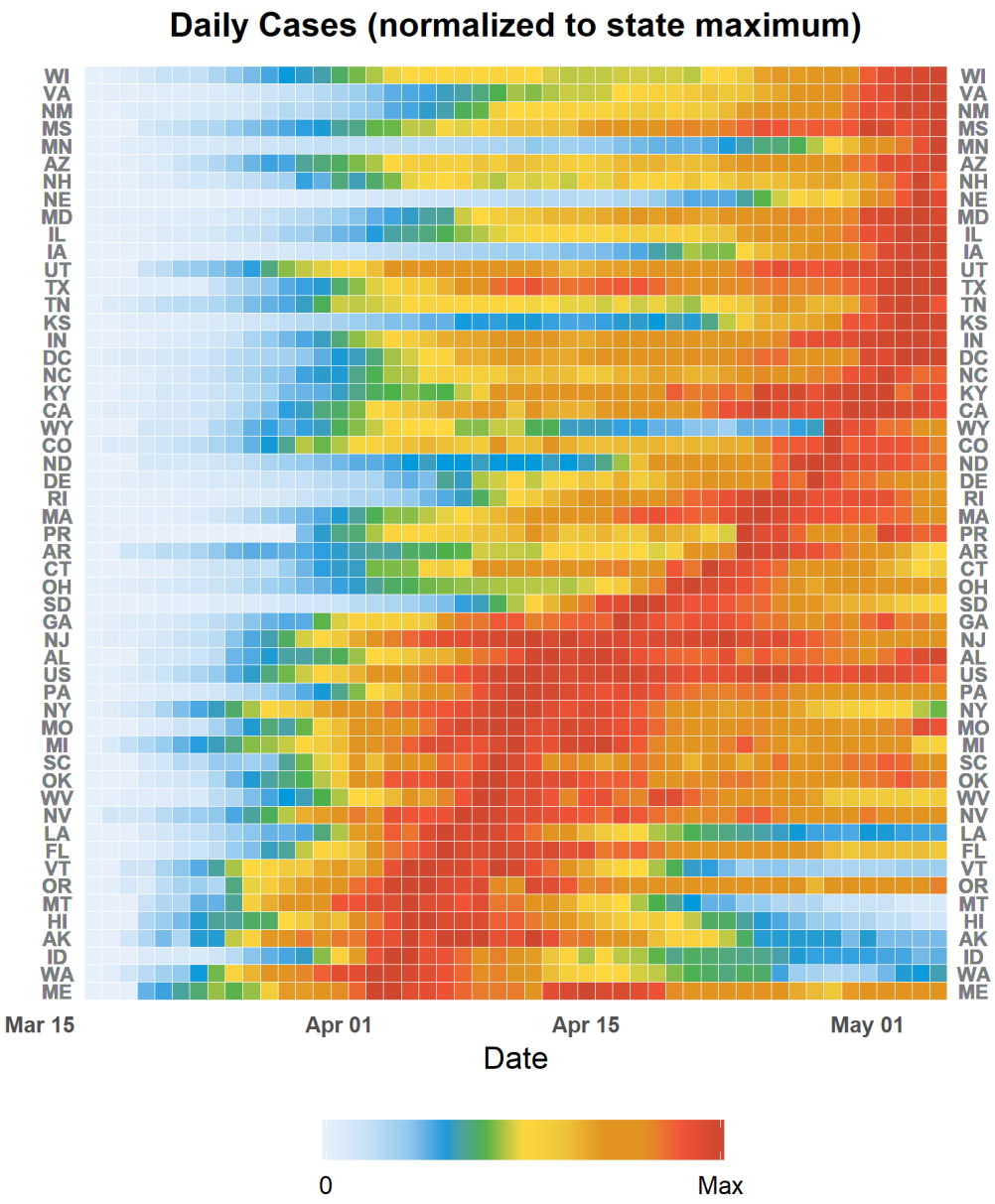

Figure 11: Case Velocity Normalized to Max

Deaths paint a darker picture, as many states are still close to or reaching new highs. However, we expect deaths to peak after confirmed cases, so it's not surprising to see a lag between the two charts. For this chart, we remove any states with less than fifty (50) deaths.

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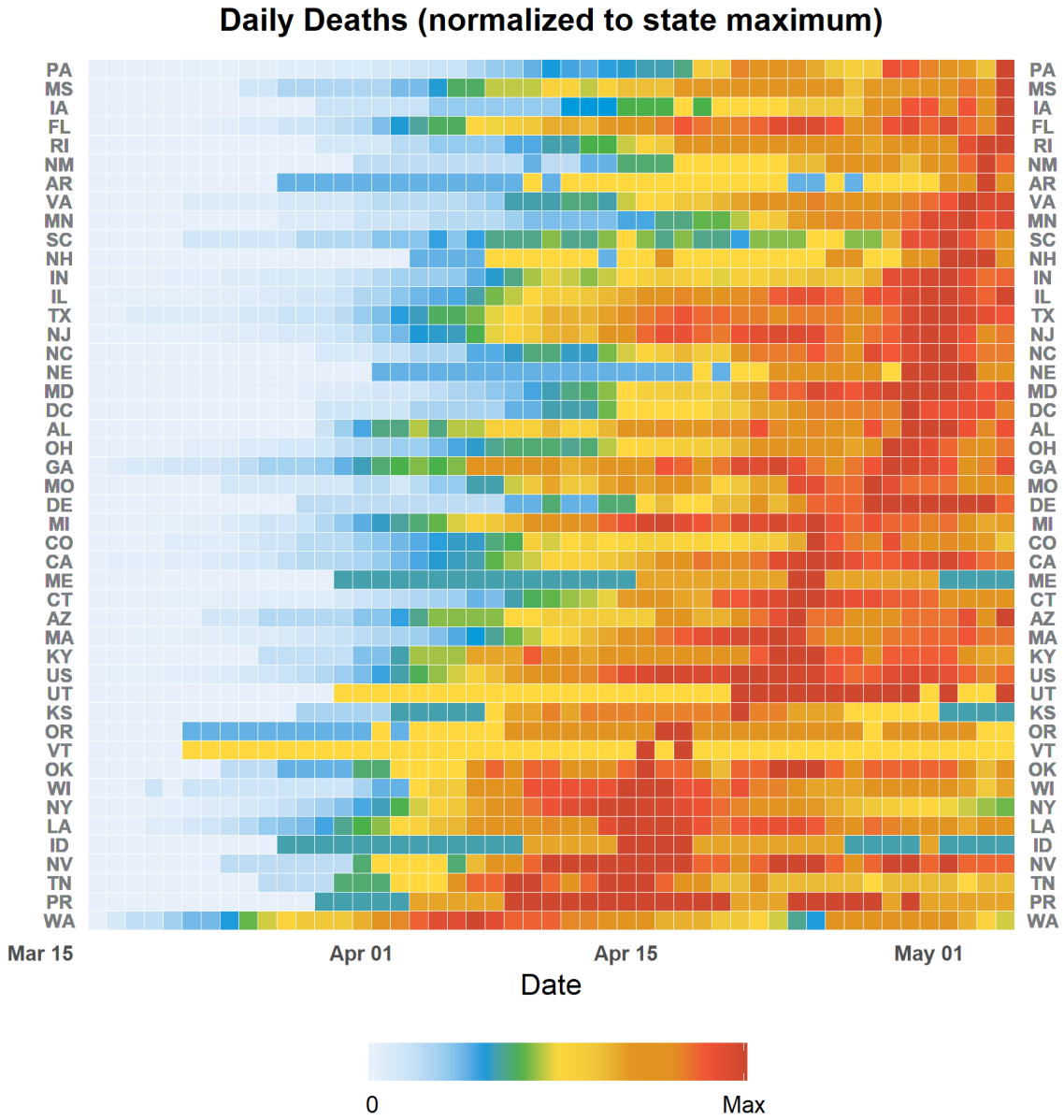

Figure 12: Death Velocity Normalized to Max

County Comparisons

Here is our first look at county data. The table lists the top 100 counties in terms of case load. Unfortunately, we do not have access to testing data yet, so we can only see cases and deaths. NY and NJ are a major portion of this list, while Hartford, CT stands out as having the highest death rate at 12.5%.

Metrics as of 2020-05-06

State	County	Cases	Deaths	Death Rate (%)	Stage
NY	New York City	175661	13207	7.5	3

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State	County	Cases	Deaths	Death Rate (%)	Stage
IL	Cook	43715	1802	4.1	1
NY	Nassau	36965	2221	6.0	3
NY	Suffolk	35077	1325	3.8	3
NY	Westchester	30097	1220	4.1	3
CA	Los Angeles	26217	1256	4.8	2
MI	Wayne	17314	1924	11.1	3
NJ	Bergen	16282	1215	7.5	3
PA	Philadelphia	16040	726	4.5	2
NJ	Hudson	15881	845	5.3	3
MA	Middlesex	15757	997	6.3	3
NJ	Essex	14621	1292	8.8	3
MA	Suffolk	13941	596	4.3	3
NJ	Passaic	13496	633	4.7	3
NJ	Union	13357	737	5.5	3
FL	Miami-Dade	13091	378	2.9	3
NJ	Middlesex	12768	642	5.0	3
CT	Fairfield	12245	910	7.4	3
NY	Rockland	12095	380	3.1	3
MA	Essex	9773	512	5.2	2
NY	Orange	9030	254	2.8	3
CT	New Haven	8110	595	7.3	3
MD	Prince George's	7598	271	3.6	1
MI	Oakland	7499	762	10.2	3
RI	Providence	7138	265	3.7	3
NJ	Ocean	6974	447	6.4	3
TX	Harris	6967	140	2.0	2
WA	King	6584	465	7.1	3
LA	Orleans	6557	447	6.8	3
MA	Worcester	6471	320	4.9	1
LA	Jefferson	6426	377	5.9	3
MA	Norfolk	6382	555	8.7	3
NJ	Monmouth	6378	385	6.0	3
IN	Marion	6327	363	5.7	2
CT	Hartford	6173	773	12.5	3
MI	Macomb	5736	643	11.2	3
MA	Plymouth	5602	333	5.9	2
NJ	Morris	5549	449	8.1	3
MD	Montgomery	5384	274	5.1	1
FL	Broward	5383	208	3.9	3
AZ	Maricopa	4751	168	3.5	1
PA	Montgomery	4645	382	8.2	3
VA	Fairfax	4615	198	4.3	1
NJ	Mercer	4594	256	5.6	1
NV	Clark	4411	223	5.1	2
TX	Dallas	4370	114	2.6	1
CA	Riverside	4354	181	4.2	3
PA	Delaware	4256	258	6.1	2
IL	Lake	4252	151	3.6	1
MA	Hampden	4114	408	9.9	3
MA	Bristol	4103	205	5.0	1
CA	San Diego	4083	150	3.7	2
NJ	Camden	4073	163	4.0	2

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State	County	Cases	Deaths	Death Rate (%)	Stage
IL	DuPage	3803	196	5.2	1
NY	Erie	3802	254	6.7	1
NJ	Somerset	3753	298	7.9	3
MD	Baltimore	3448	136	3.9	1
PA	Bucks	3429	258	7.5	2
CO	Denver	3428	166	4.8	1
FL	Palm Beach	3309	196	5.9	2
WI	Milwaukee	3296	195	5.9	2
TN	Davidson	3191	29	0.9	1
NY	Dutchess	3131	81	2.6	3
NJ	Burlington	3100	149	4.8	1
IL	Will	3066	169	5.5	1
GA	Fulton	3057	129	4.2	2
OH	Franklin	2988	84	2.8	1
PA	Lehigh	2963	83	2.8	3
PA	Berks	2948	118	4.0	3
TN	Shelby	2878	58	2.0	2
CA	Orange	2859	57	2.0	2
UT	Salt Lake	2769	31	1.1	2
CO	Arapahoe	2758	157	5.7	2
TX	Tarrant	2624	77	2.9	2
WA	Snohomish	2552	110	4.3	2
DE	Sussex	2497	70	2.8	3
MD	Baltimore city	2411	120	5.0	3
OH	Cuyahoga	2398	121	5.0	2
OH	Marion	2332	4	0.2	3
MN	Hennepin	2298	284	12.4	1
GA	DeKalb	2255	57	2.5	2
PA	Luzerne	2255	101	4.5	3
CA	Santa Clara	2244	118	5.3	2
PA	Northampton	2240	94	4.2	2
CA	San Bernardino	2182	99	4.5	3
SD	Minnehaha	2170	16	0.7	3
VA	Prince William	2146	32	1.5	1
LA	East Baton Rouge	2131	156	7.3	1
IL	Kane	2115	57	2.7	1
IN	Lake	2098	97	4.6	2
GA	Gwinnett	2057	65	3.2	2
MD	Anne Arundel	2018	93	4.6	1
PA	Lancaster	1991	198	9.9	3
DE	New Castle	1934	82	4.2	2
CO	Weld	1897	102	5.4	2
MI	Kent	1854	39	2.1	1
GA	Cobb	1839	101	5.5	2
OH	Pickaway	1828	22	1.2	3
TX	Travis	1816	53	2.9	2
CO	Adams	1815	68	3.7	2

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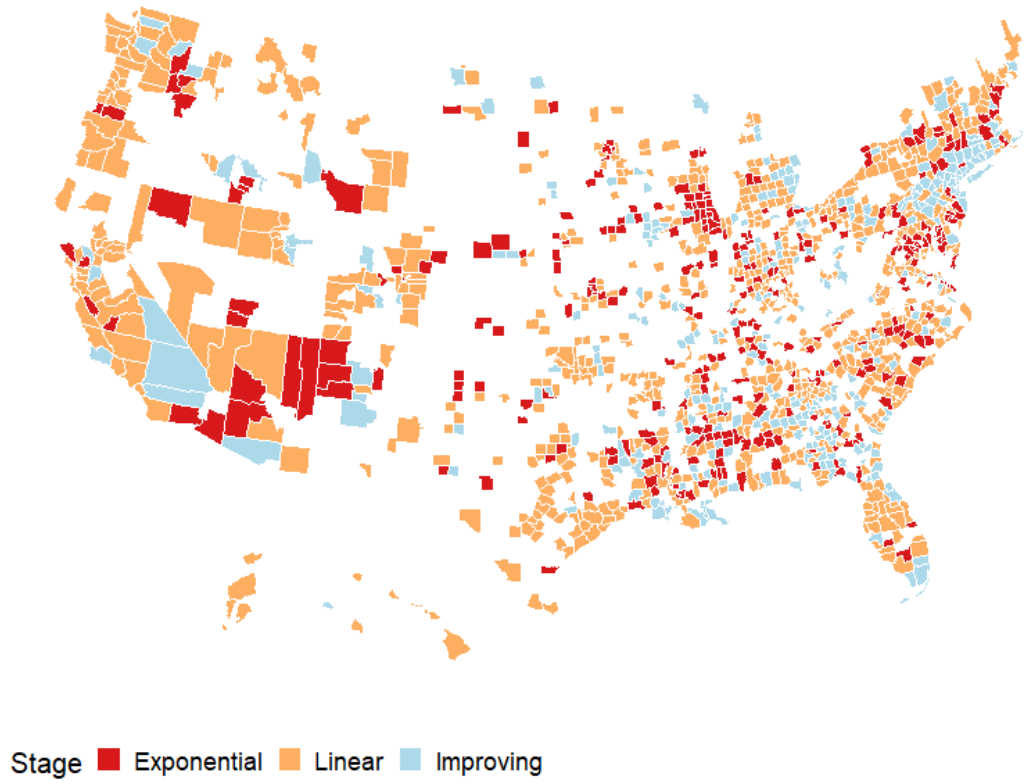

Figure 13: Case Acceleration Stage by County

Conclusions

- Overall, the United States was at in initial "peak" in New Case Velocity and New Case Acceleration. New Death Acceleration has been dropping across the US for the past week - signaling a positive trend across the country. However, testing is accelerating, so we should expect a short-term acceleration in new cases as those tests are processed. Even though we expect an increase in cases proportionate to testing, this does not necessitate a proportionate increase in deaths.
- Early indications from New Case Velocity and Acceleration following the initial US "peak" are that the deceleration of new cases will take place over a much longer period of time than the rapid acceleration of new cases that led to the "peak." In simpler terms, it appears that the recovery following the initial "peak" will take significantly longer than the duration of the Exponential Growth and Linear Growth stages. This trend is in line with what other countries across the world experienced with COVID-19.
- In terms of new cases, the majority of states are currently in Stage 2 (Linear Growth). Several states, particularly in New England, have entered or are soon to enter Stage 3 (Improving), as their New Case Accelerations have fallen below zero. The Midwest is struggling as many of them are in Stage 1 (Exponential Growth).
- Reduced mobility caused by lockdowns and social distancing measures continues to be strongly correlated with deceleration of new cases.
- Louisiana represents an outlier in that it encountered both a rapid acceleration AND a rapid deceleration of new cases within a short period of time. We hypothesize that this may have been caused by a short, high-impact infection event, such as Mardi Gras celebrations

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- California and Washington are experiencing remarkable early success in flattening the curve, with slower growth rates per-capita in cases and deaths. However, CA is assigned to the Linear phase as case acceleration is slightly positive. We will be monitoring this trend closely to see how it develops over time.
- Georgia and Texas re-opened their economies over the weekend. On Friday, May 1st, both states saw a new high in terms of testing, and we will undoubtedly see increases in cases over the next week. The severity of these increases is yet to be seen.

Next Steps

Here are some future developments for this report:

- Predict future velocities and accelerations using simple exponential smoothing and regression techniques
- Cluster states in terms of "success" (with success defined by those reaching containment) and measure variable importance
- Ingest and model weather data, including temperature and humidity

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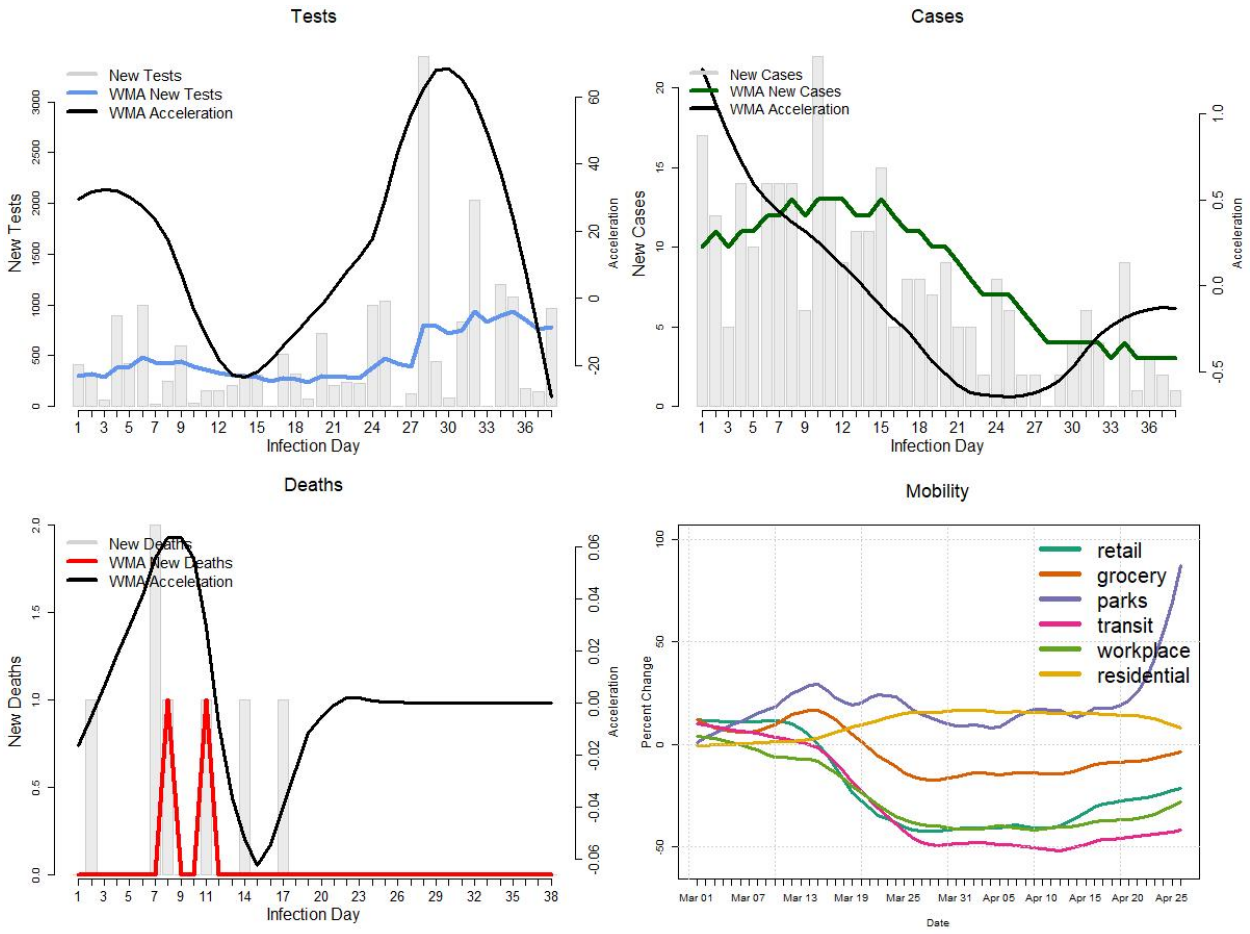
Appendix

State Data

The following graphs show how new tests, cases, and deaths are changing from day to day. They are smoothed using a Weighted Moving Averaged of 14 days for the velocity and 7 days for the acceleration. The fourth plot shows change in mobility from pre-COVID to today. This data expresses how movement in each state have decreased or increased post-COVID. In general, traffic is down across the board except for the Parks and Residential categories. Finally, we show the most recent cumulative and differenced data for each state.

AK



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
AK	2020-03-28	22692	371	9	1.6	2.4	1	0

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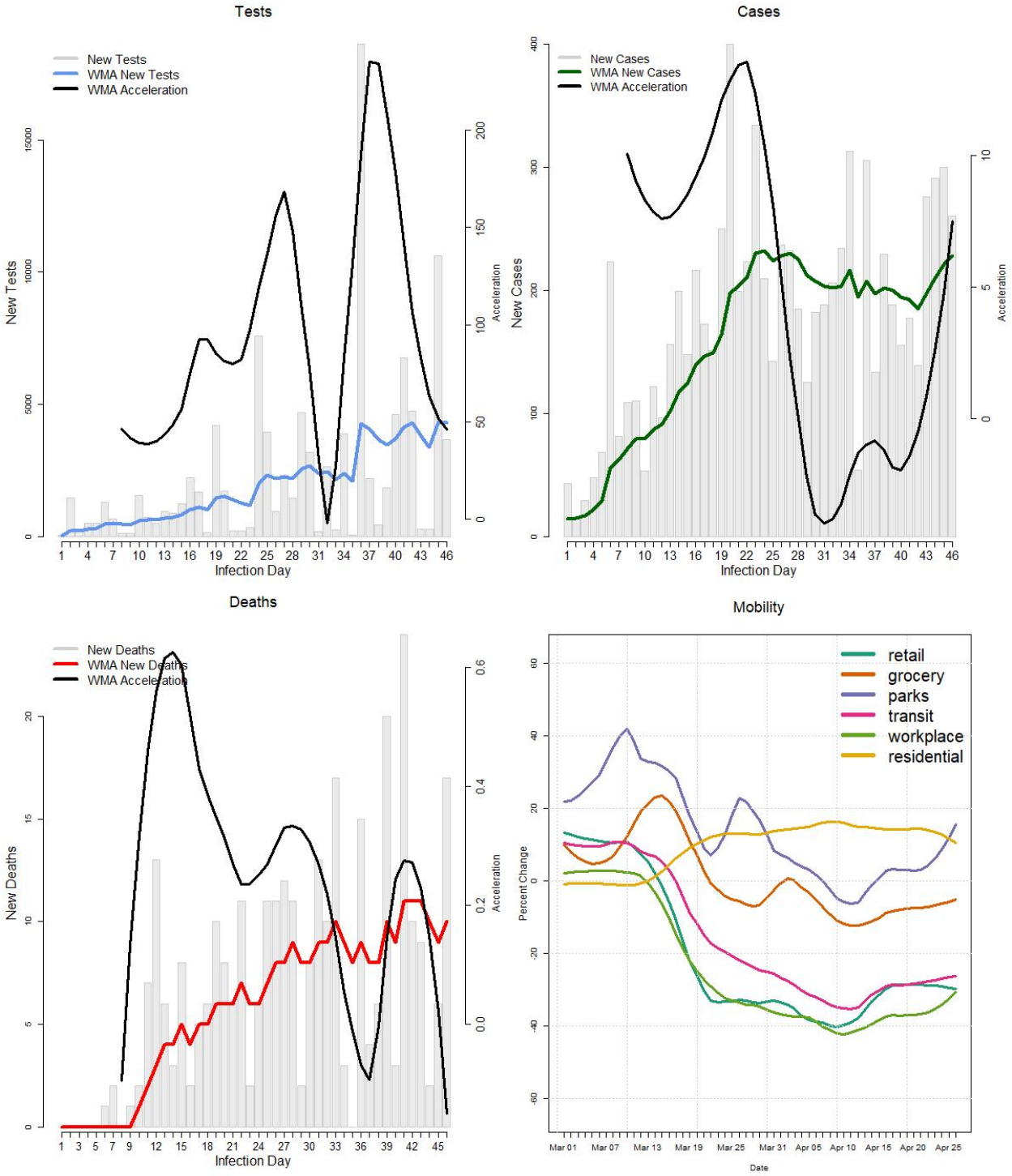
AL



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
AL	2020-03-20	106766	8285	313	7.8	3.8	260	17

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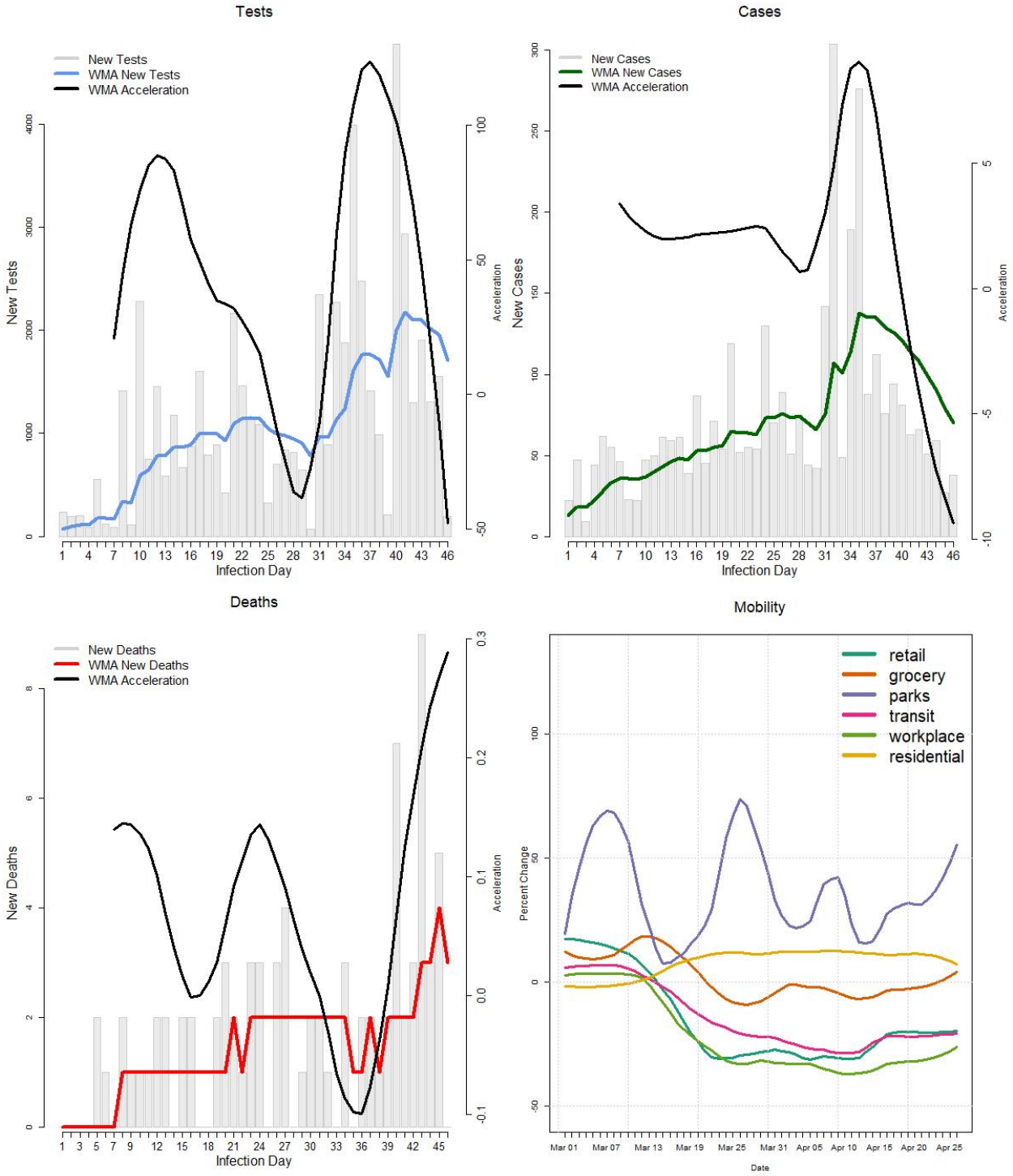
AR



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
AR	2020-03-20	54635	3496	80	6.4	2.3	38	0

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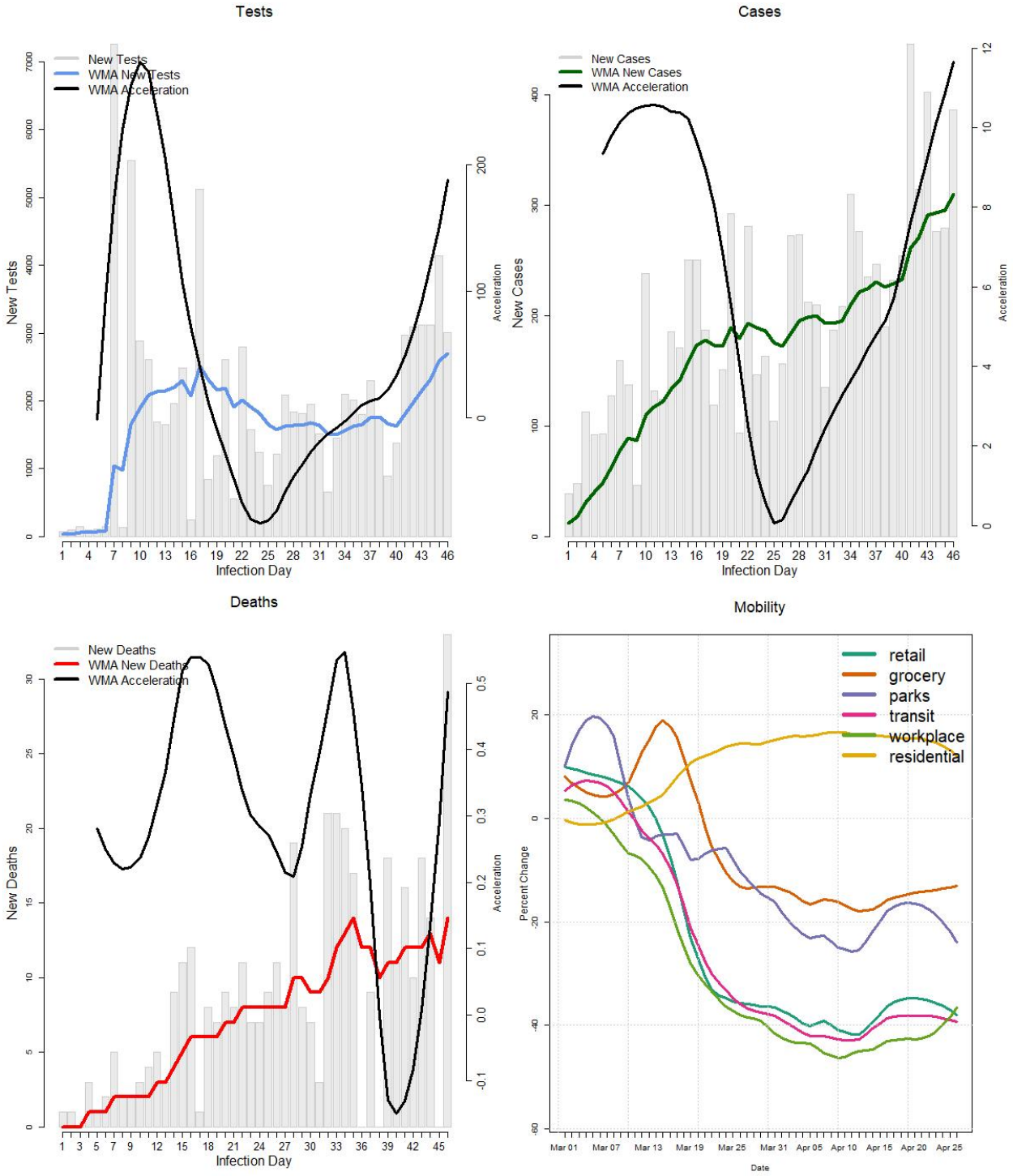
AZ



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
AZ	2020-03-20	88260	9305	395	10.5	4.2	386	33

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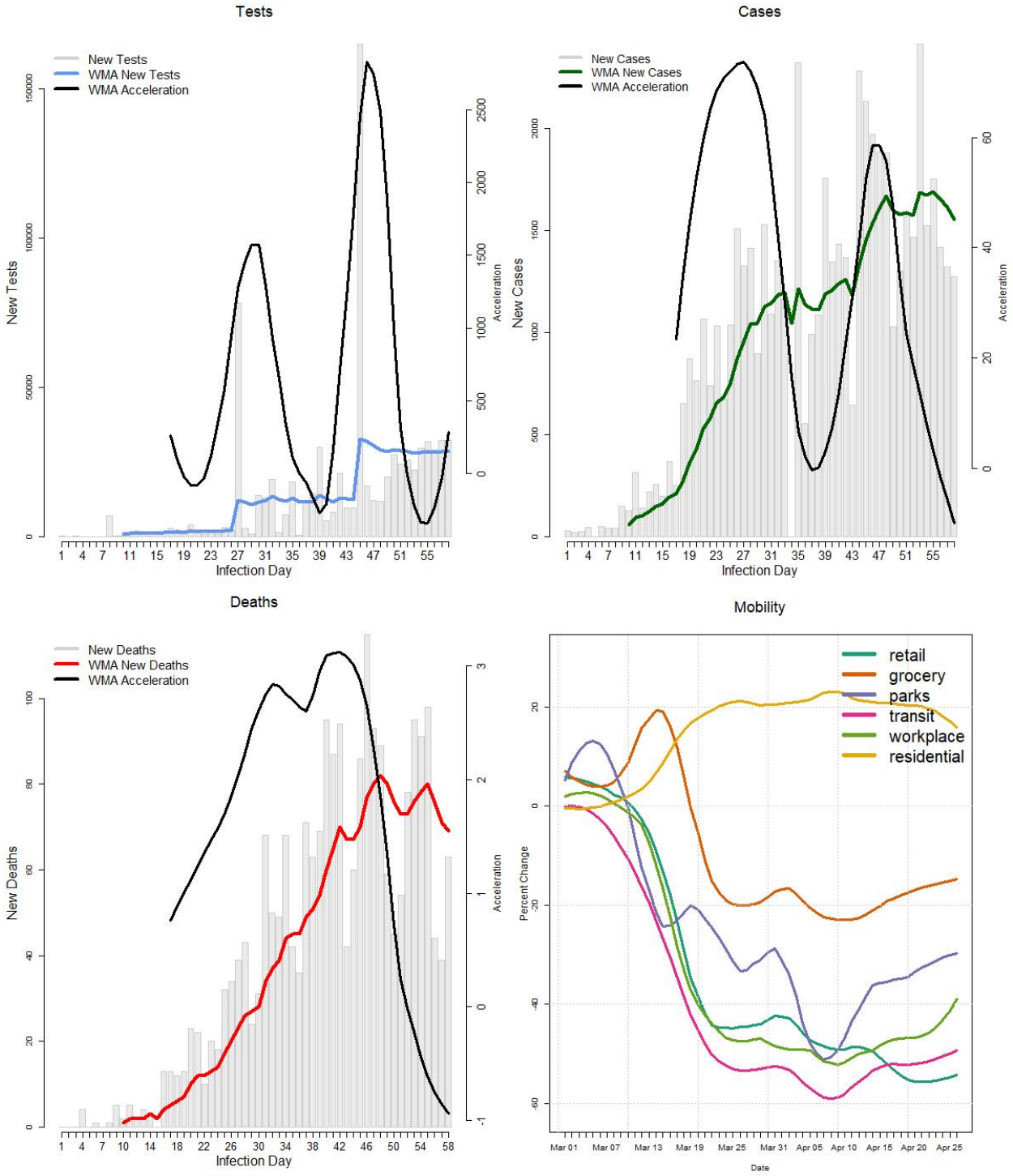
CA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
CA	2020-03-08	779902	56212	2317	7.2	4.1	1275	63

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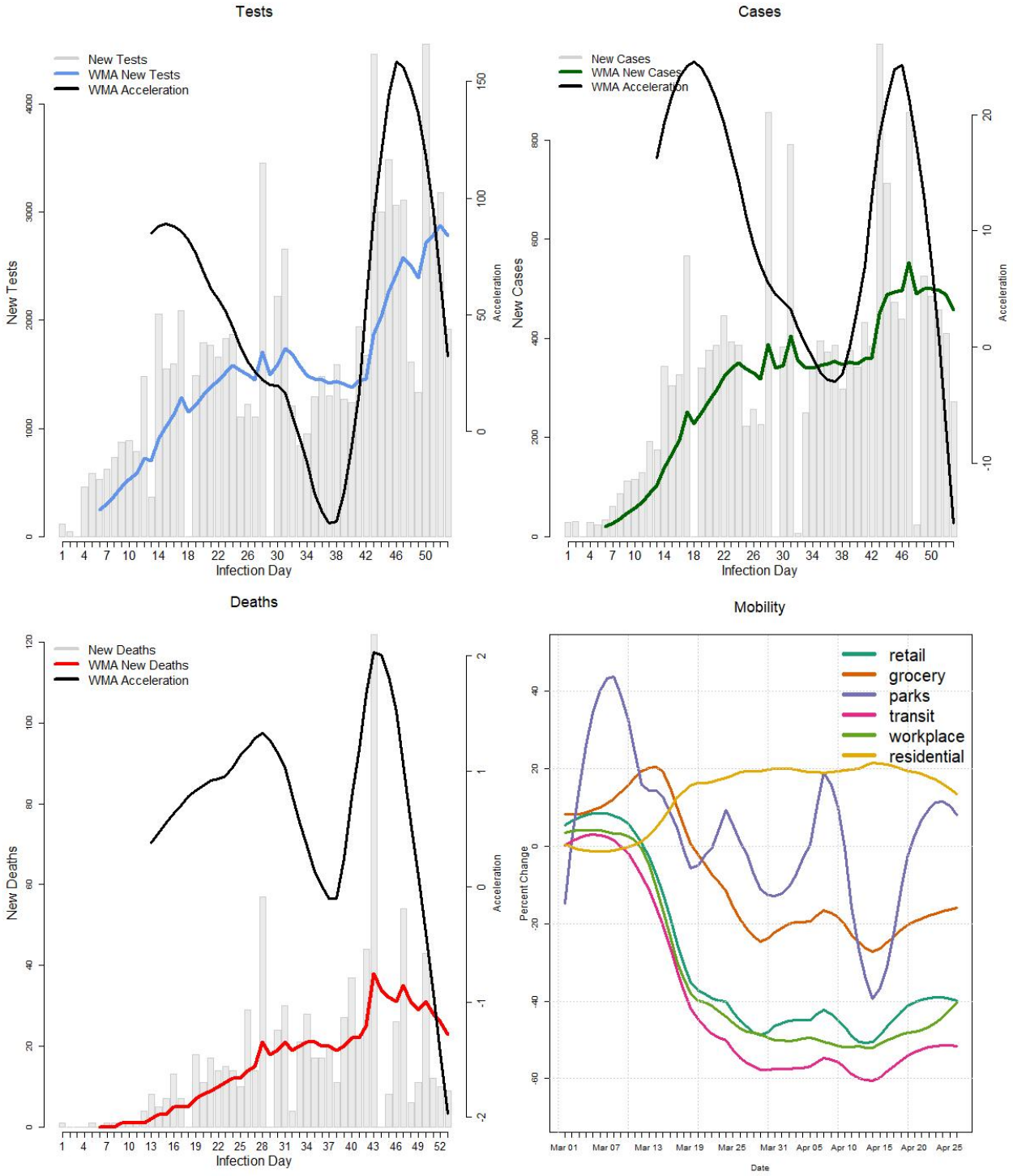
CO



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
CO	2020-03-13	85004	16907	851	19.9	5	272	9

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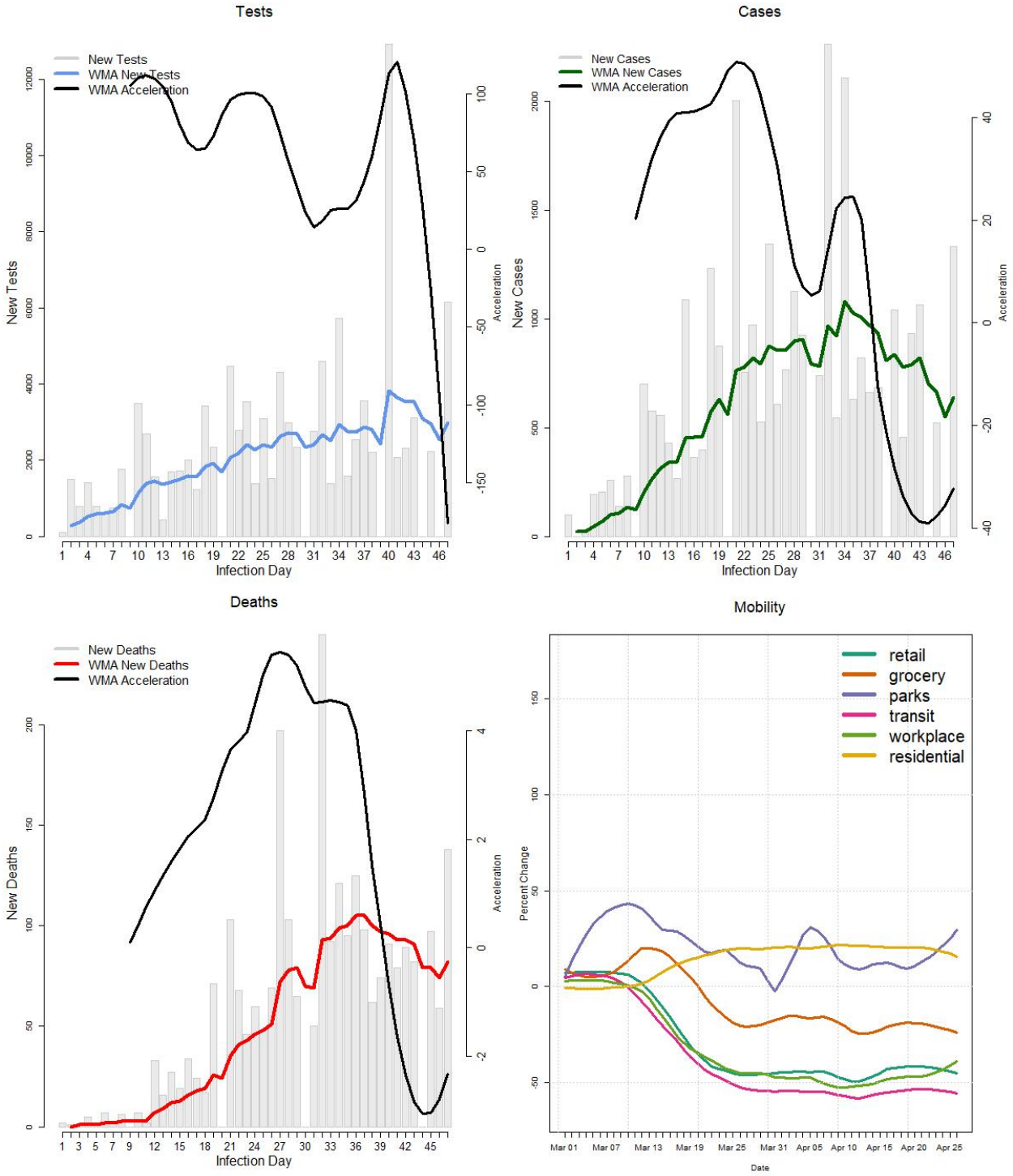
CT



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
CT	2020-03-19	108643	30621	2633	28.2	8.6	1334	138

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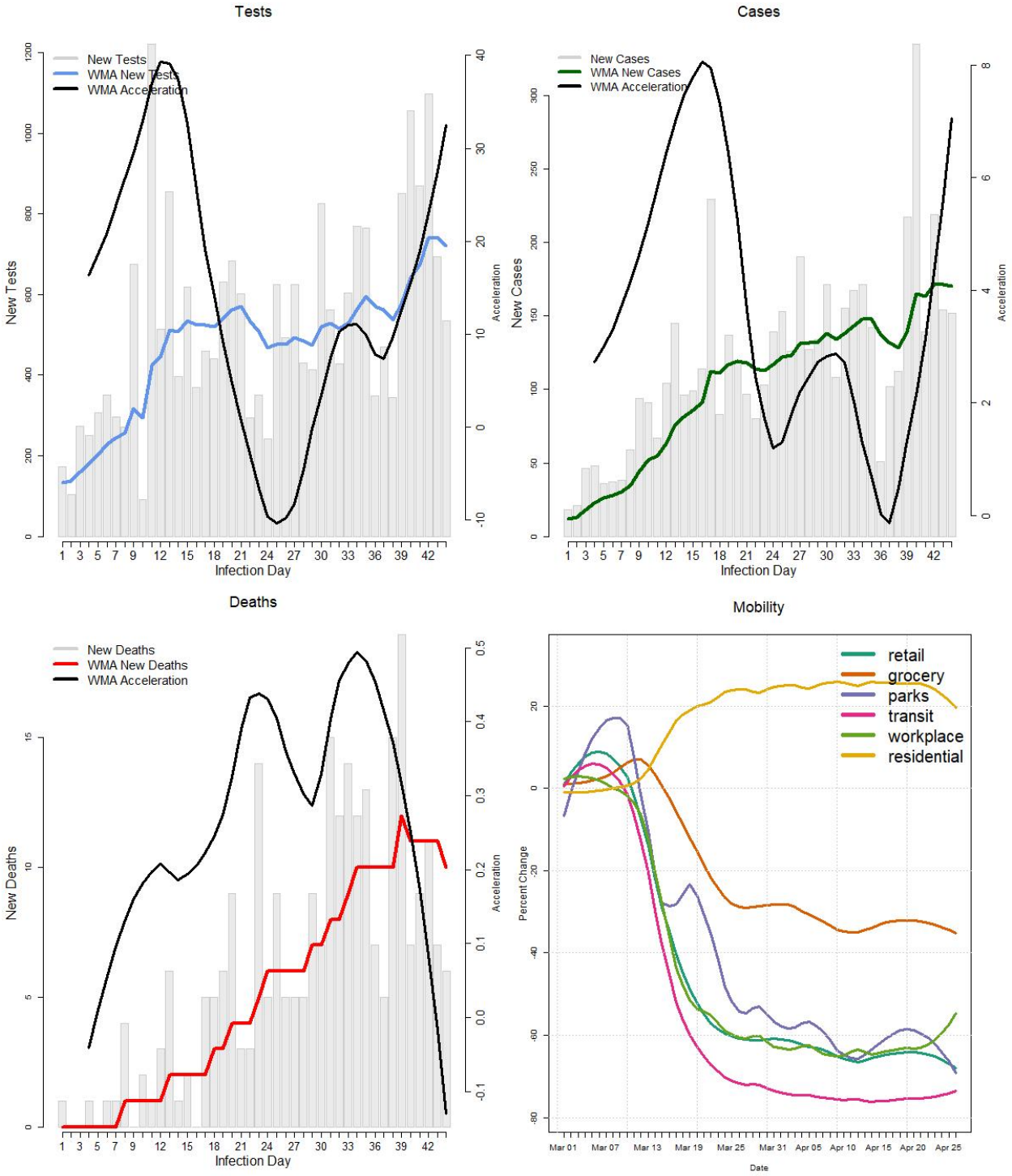
DC



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
DC	2020-03-22	24329	5322	264	21.9	5	152	6

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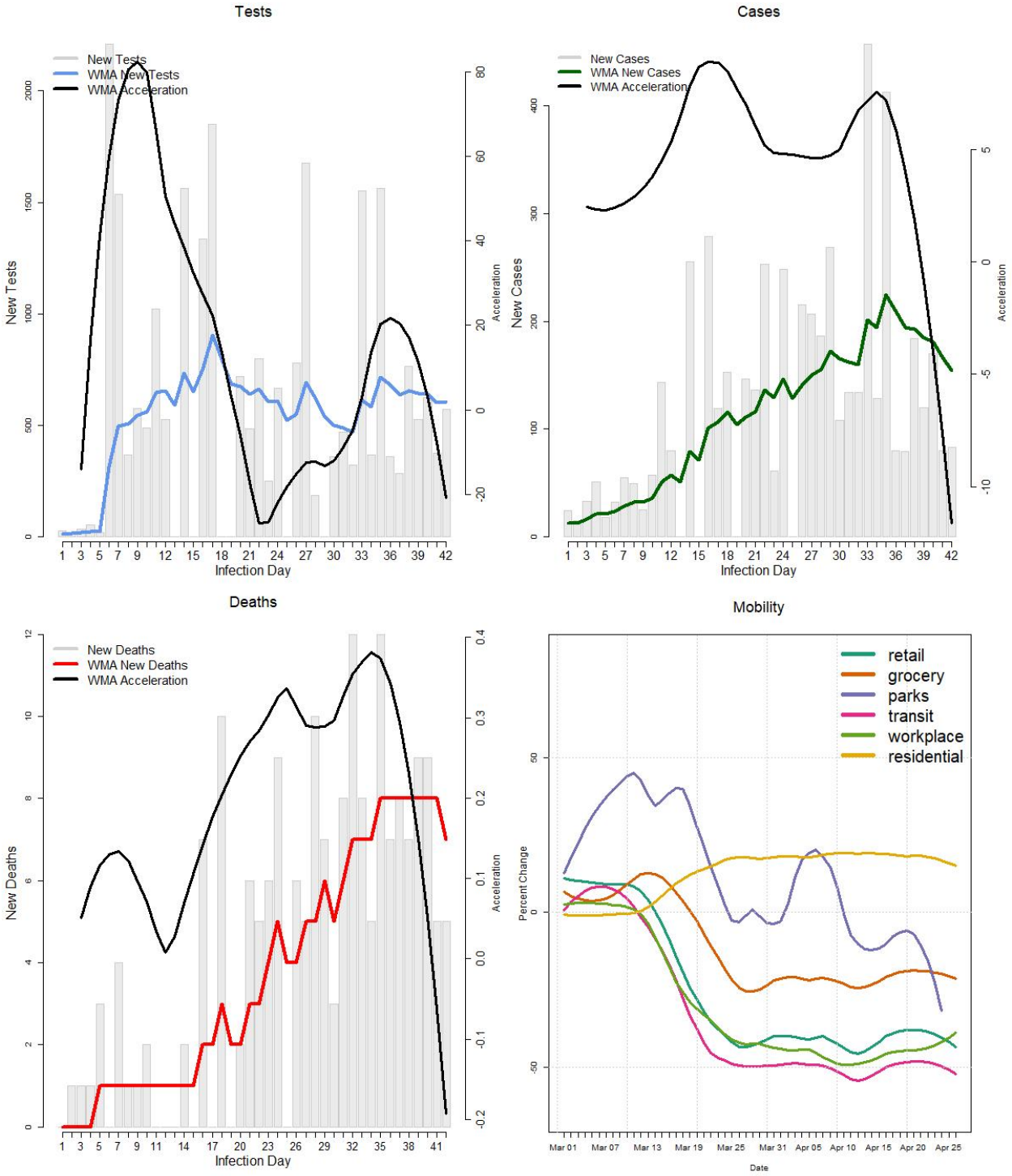
DE



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
DE	2020-03-24	24680	5371	187	21.8	3.5	83	5

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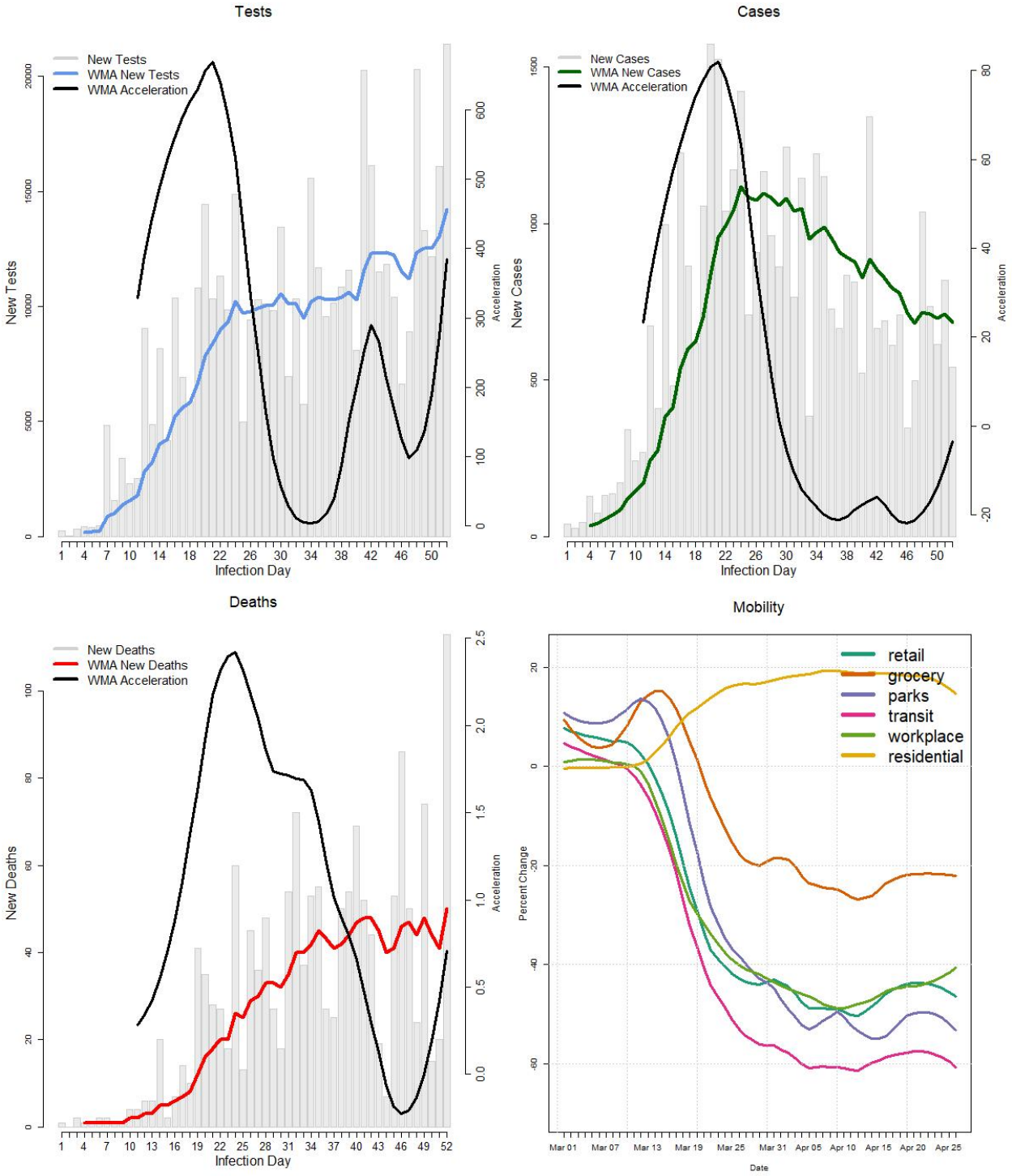
FL



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
FL	2020-03-14	465691	37439	1536	8	4.1	542	113

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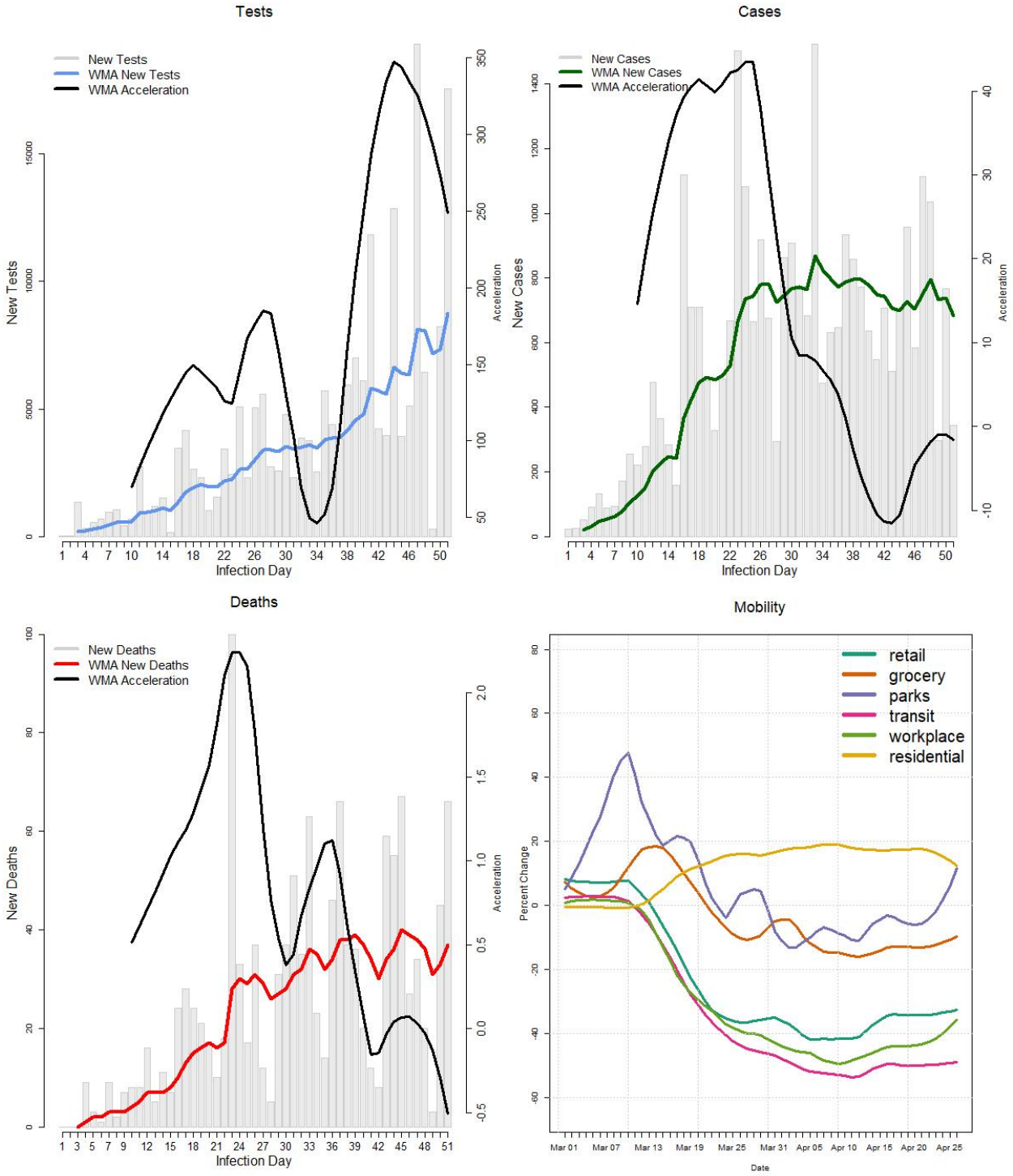
GA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
GA	2020-03-15	200883	29711	1288	14.8	4.3	343	66

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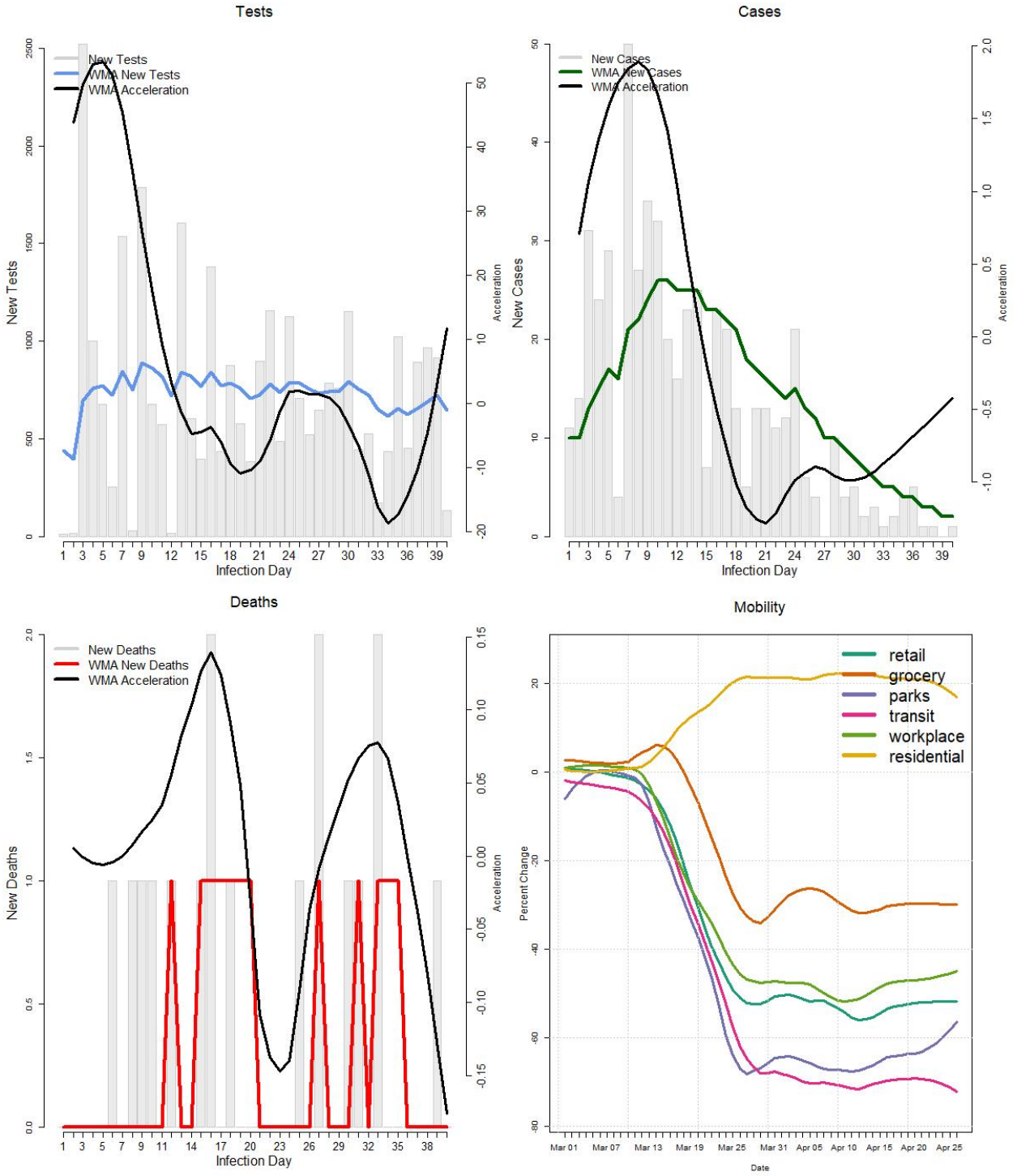
HI



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
HI	2020-03-26	33999	621	17	1.8	2.7	1	0

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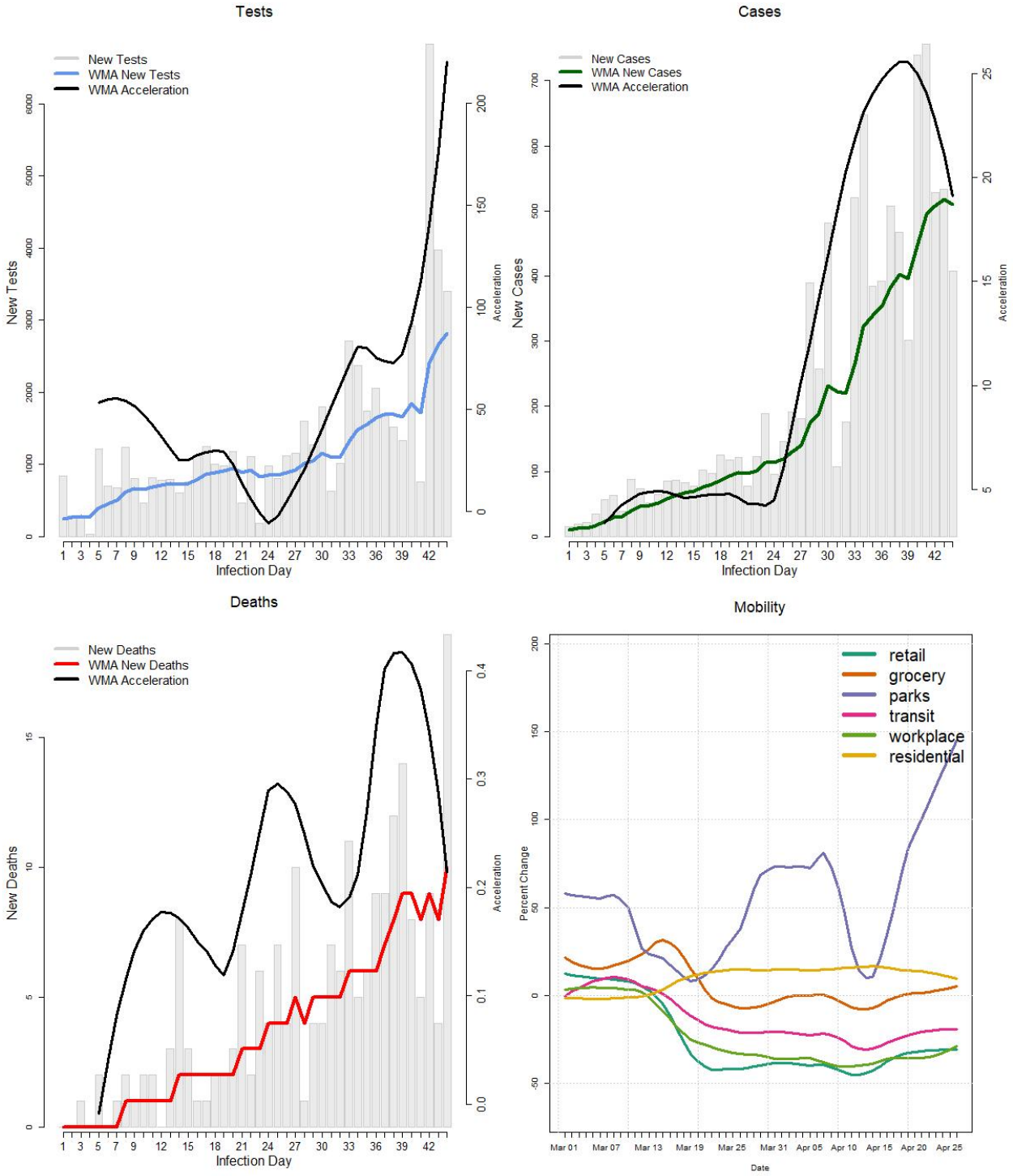
IA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
IA	2020-03-22	60569	10111	207	16.7	2	408	19

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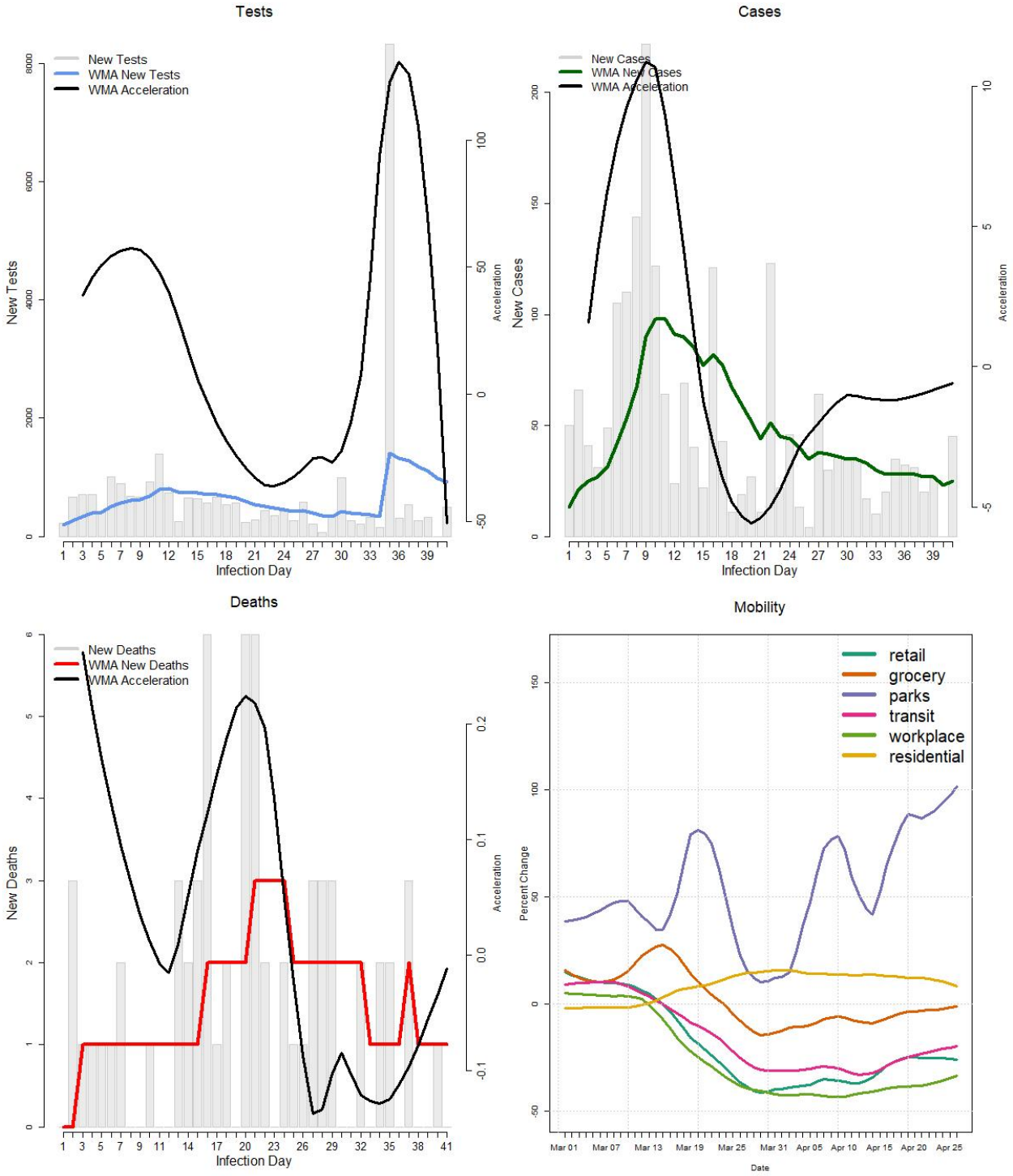
ID



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
ID	2020-03-25	30308	2106	64	6.9	3	45	0

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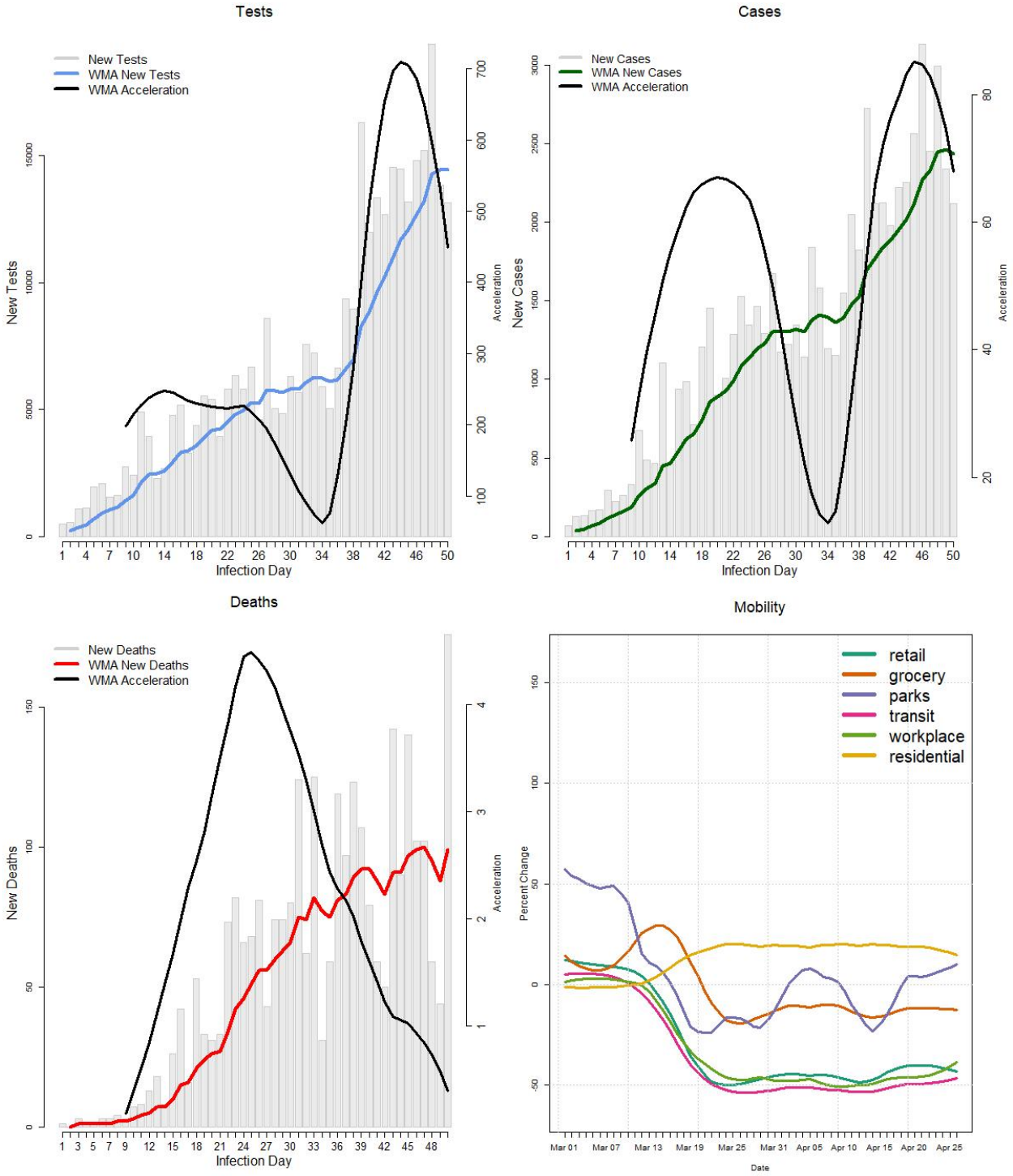
IL



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
IL	2020-03-16	346286	65962	2838	19	4.3	2122	176

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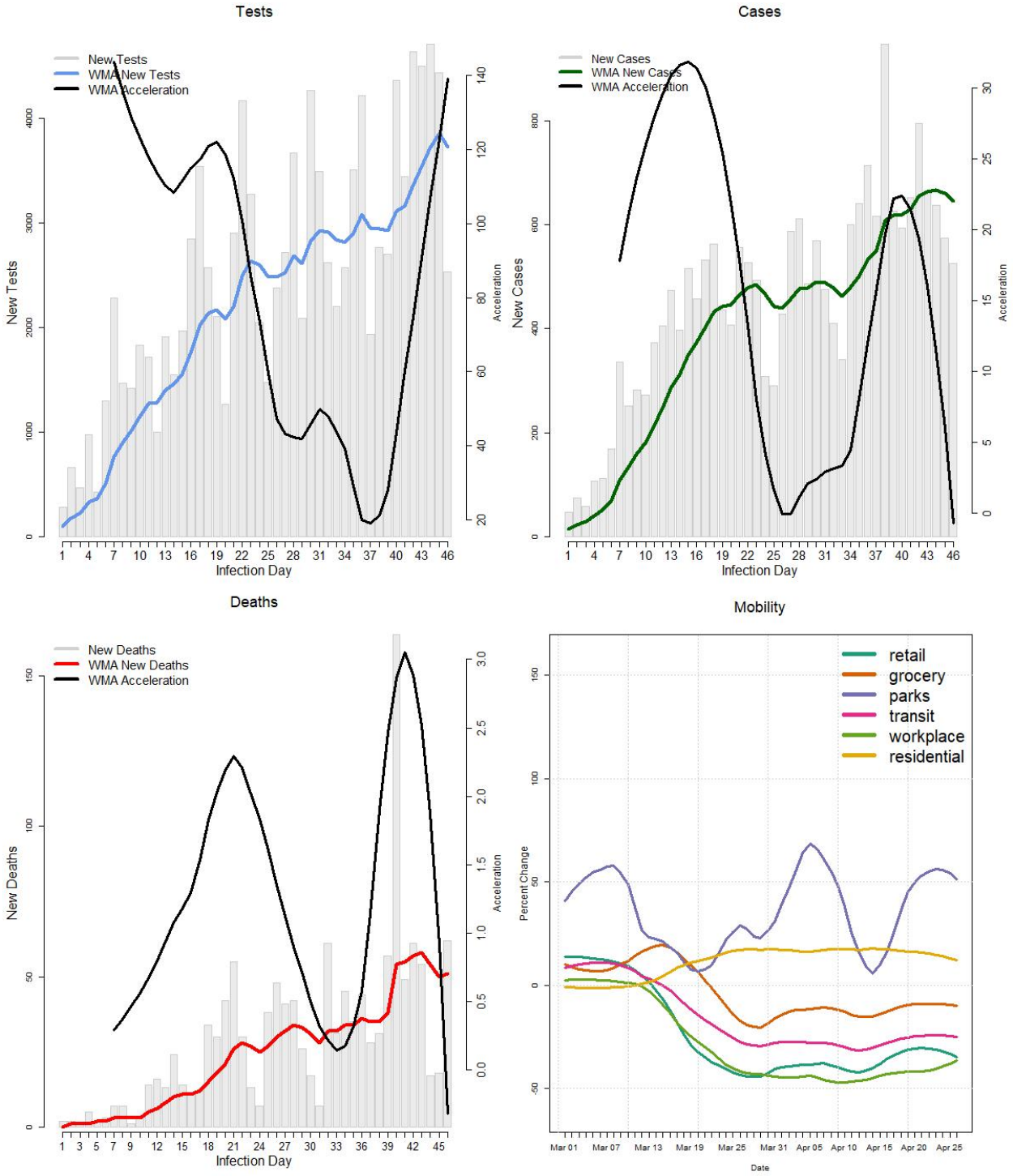
IN



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
IN	2020-03-20	115834	21033	1326	18.2	6.3	526	62

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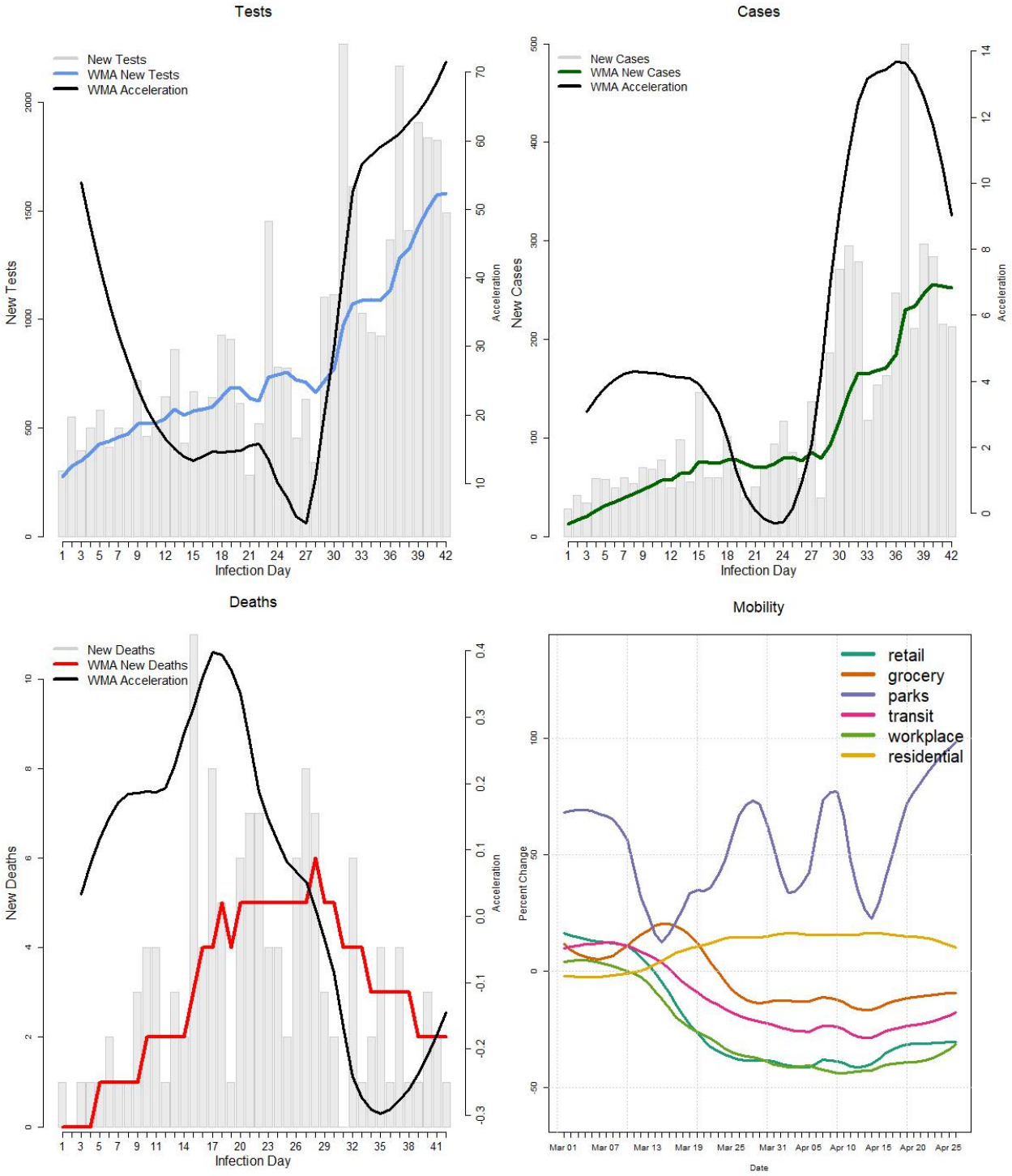
KS



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
KS	2020-03-24	40092	5458	137	13.6	2.5	213	1

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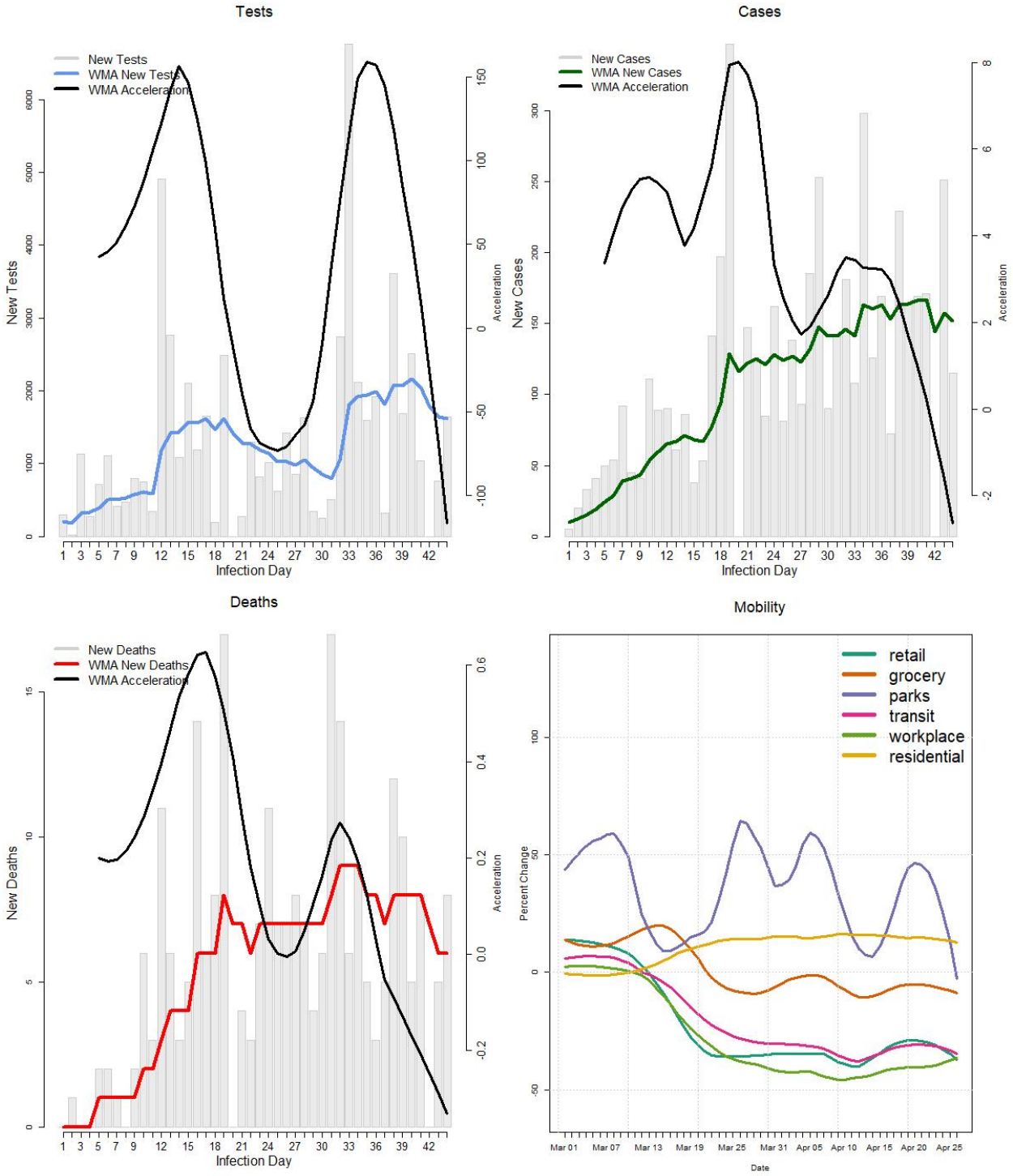
KY



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
KY	2020-03-22	60047	5245	261	8.7	5	115	8

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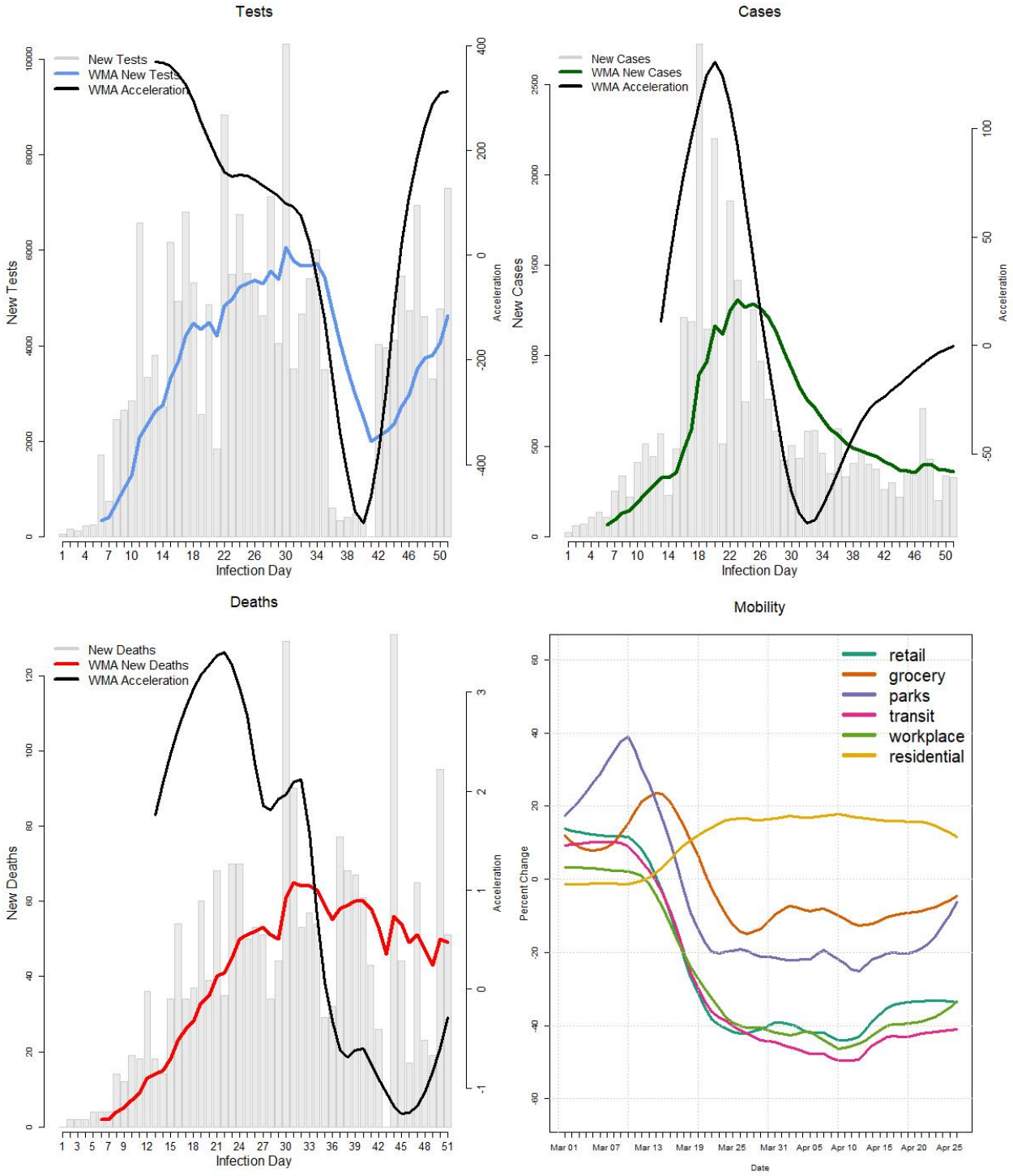
LA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
LA	2020-03-15	188231	29996	2115	15.9	7.1	323	51

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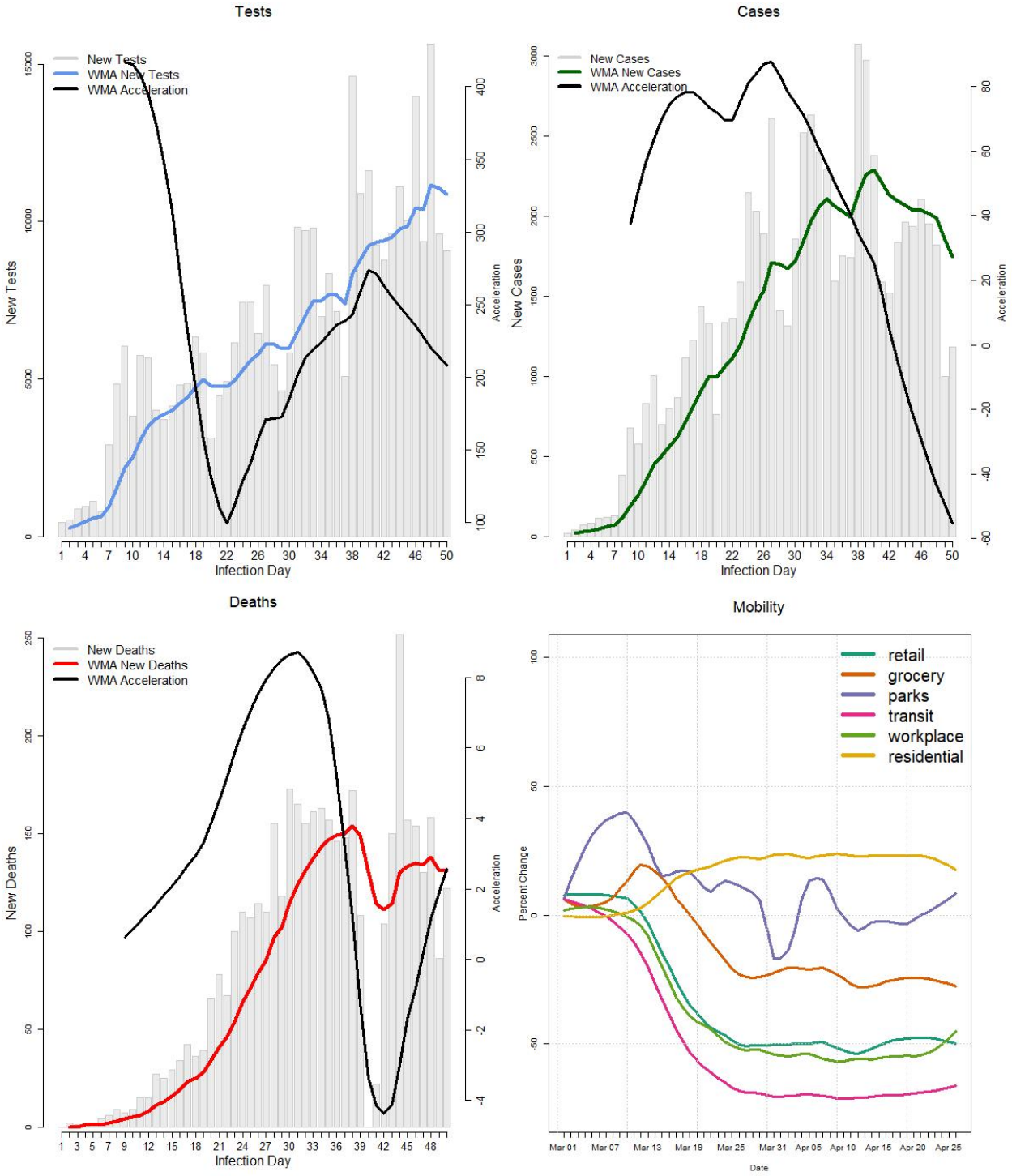
MA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MA	2020-03-16	333349	70271	4212	21.1	6	1184	122

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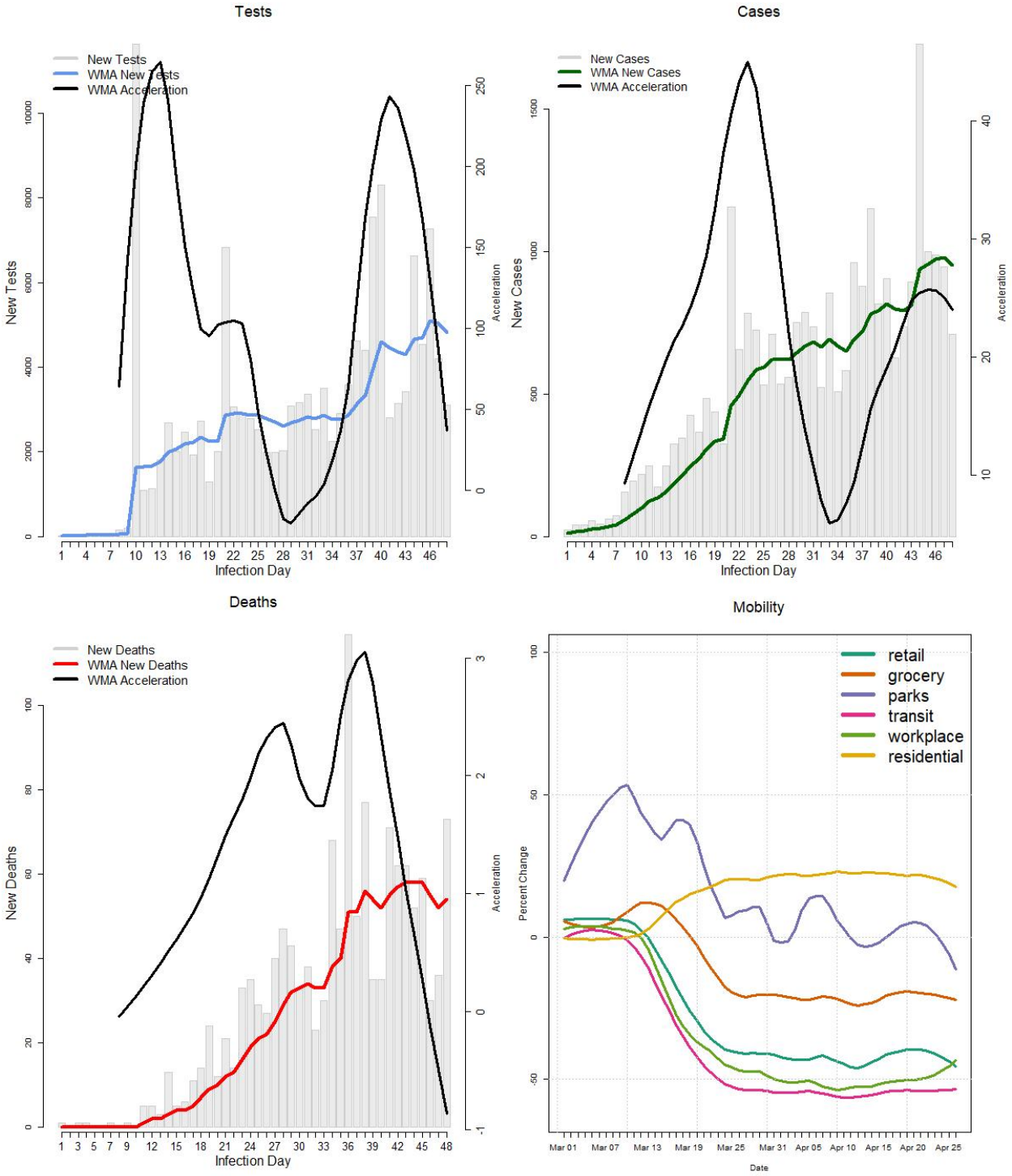
MD



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MD	2020-03-18	140103	27117	1390	19.4	5.1	709	73

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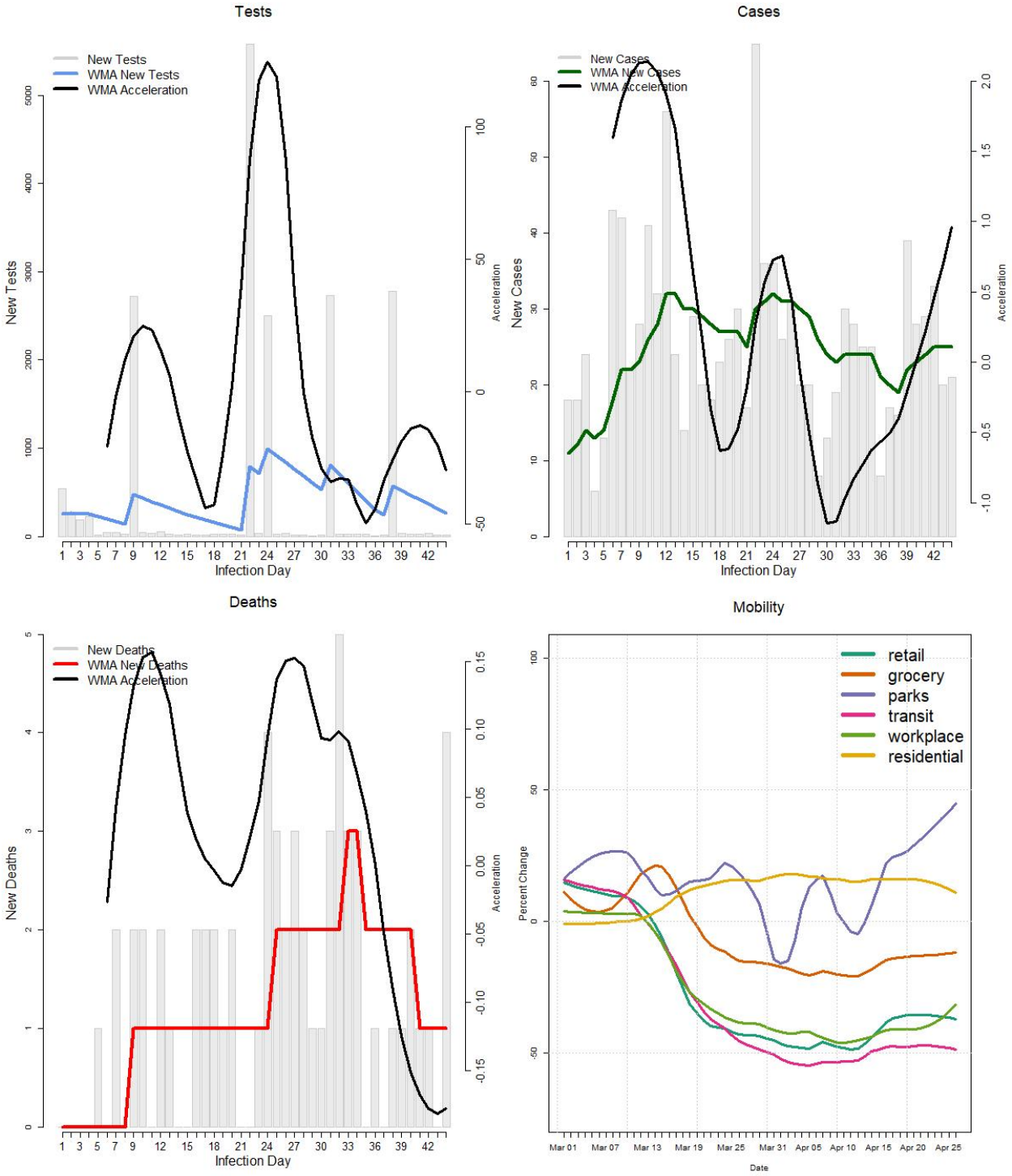
ME



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
ME	2020-03-22	20772	1226	61	5.9	5	21	4

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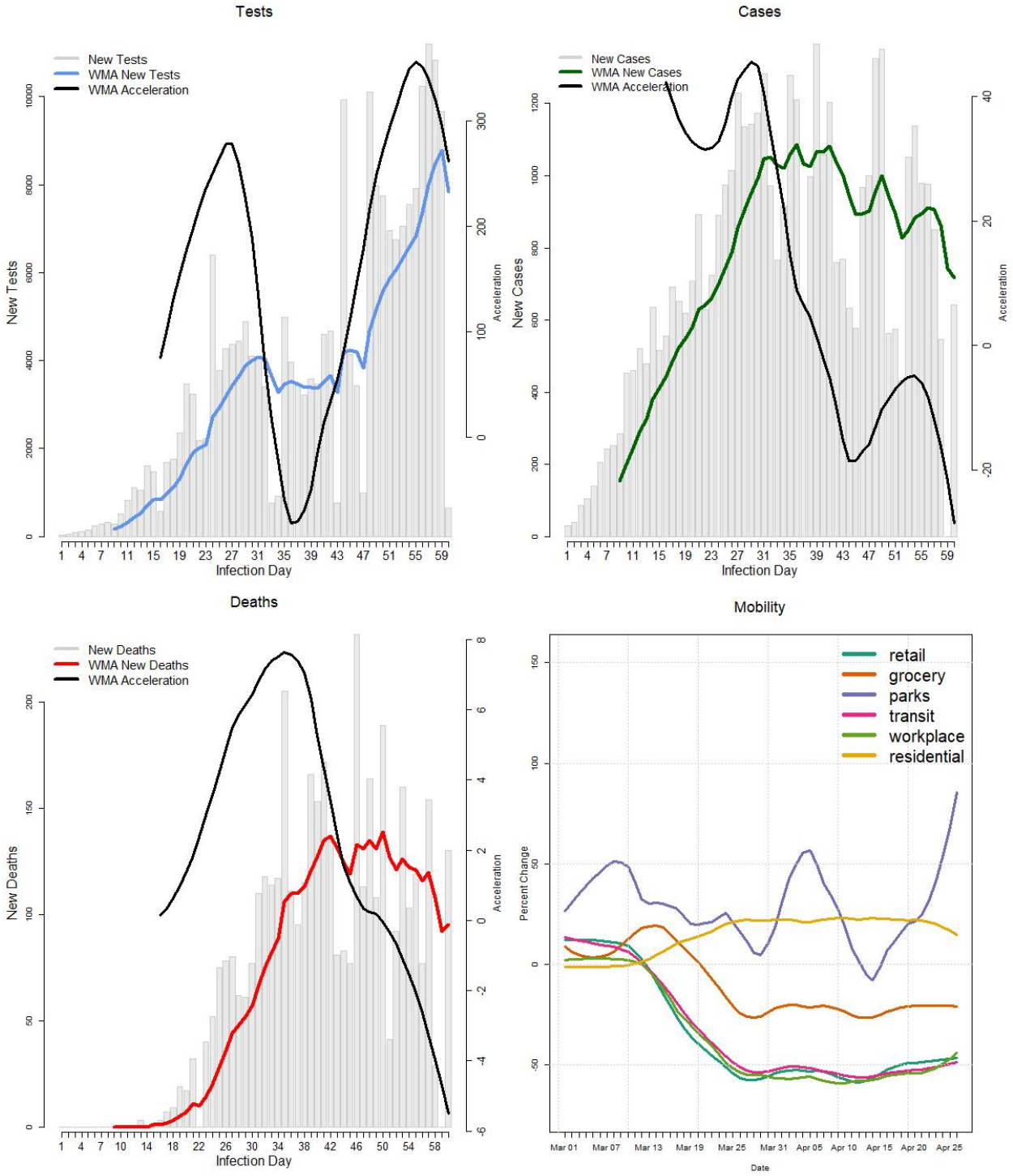
MI



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MI	2020-03-06	222836	44397	4179	19.9	9.4	643	130

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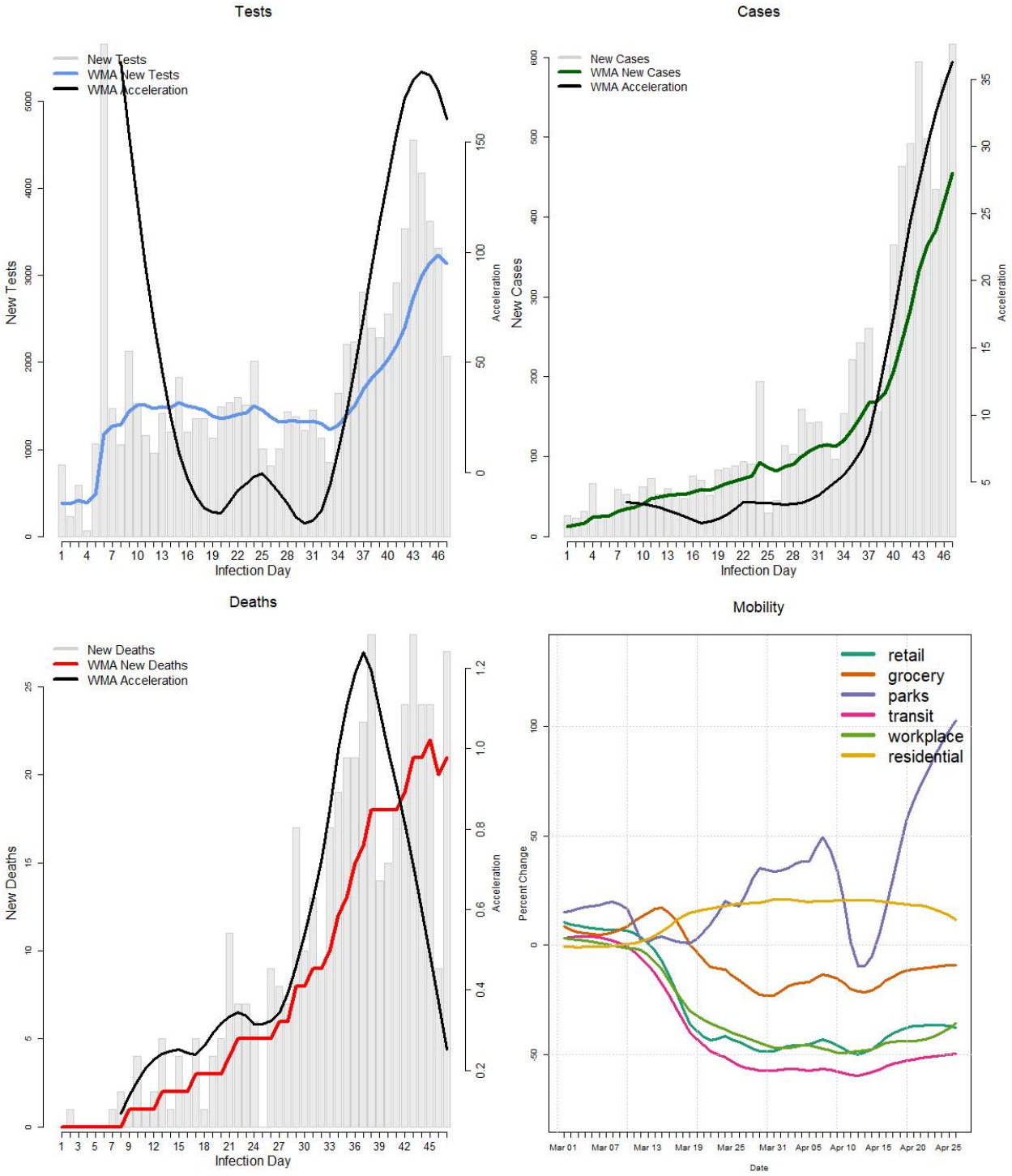
MN



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MN	2020-03-19	88009	7851	455	8.9	5.8	617	27

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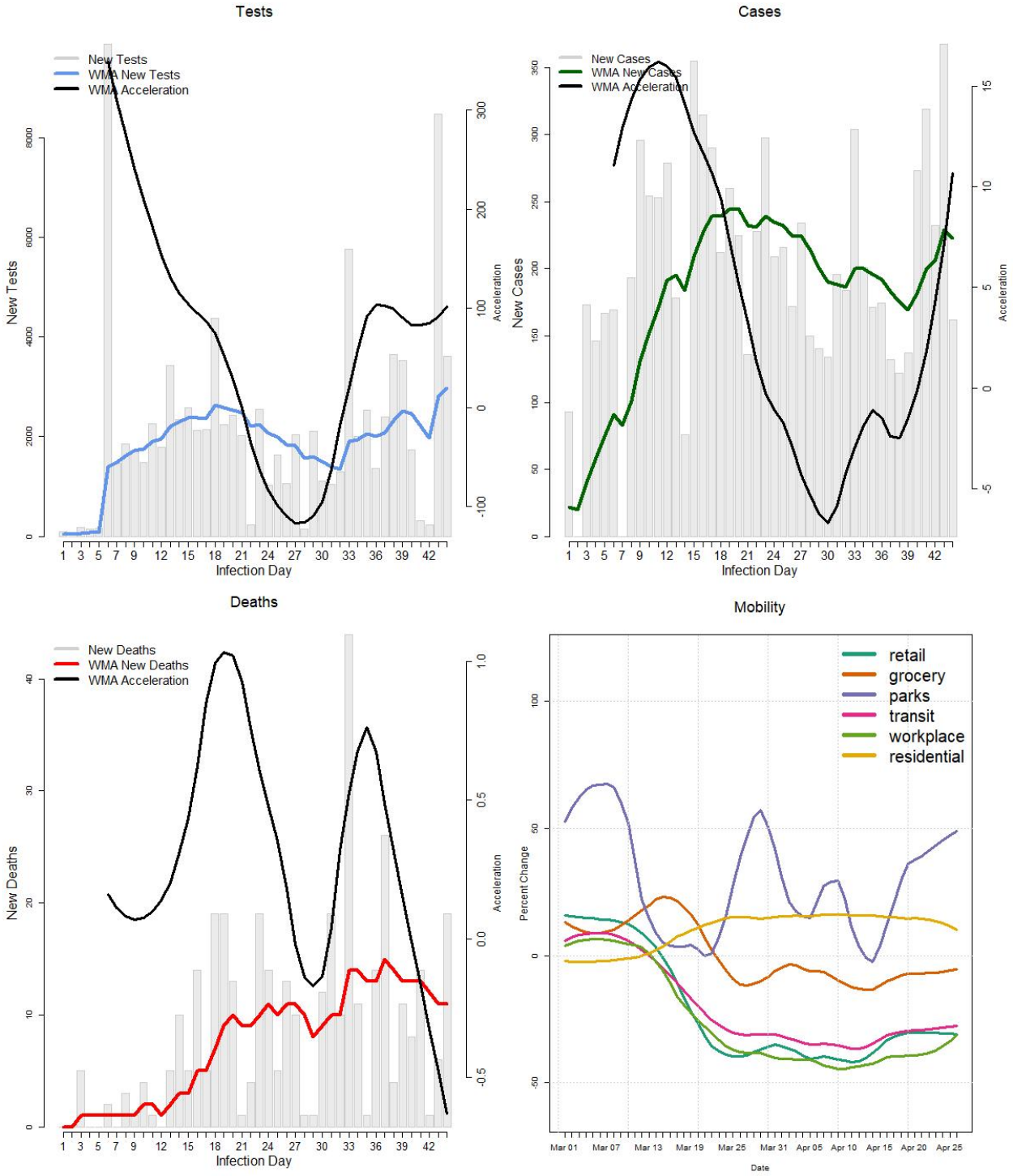
MO



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MO	2020-03-22	95066	8916	377	9.4	4.2	162	19

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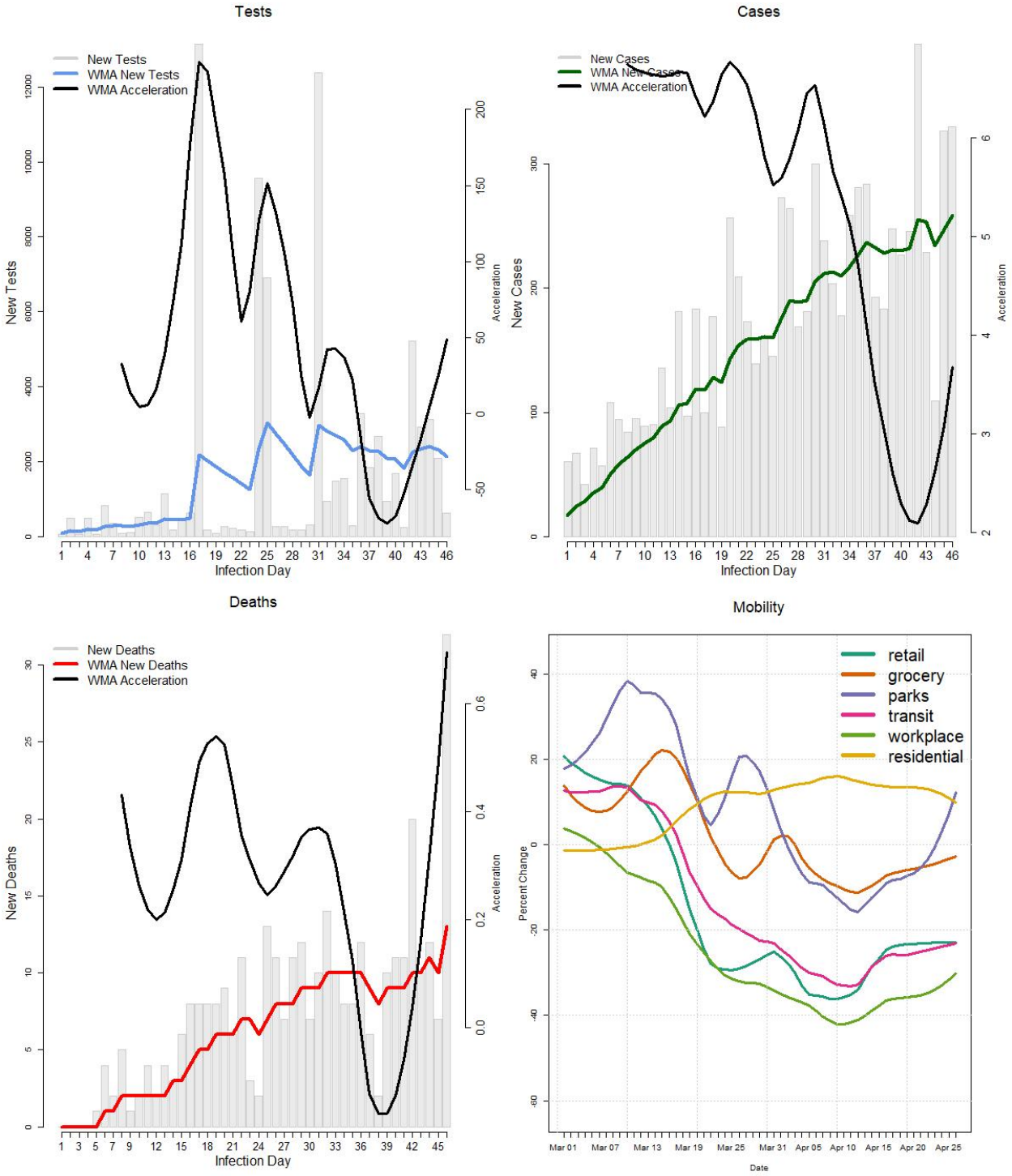
MS



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MS	2020-03-20	80308	8207	342	10.2	4.2	330	32

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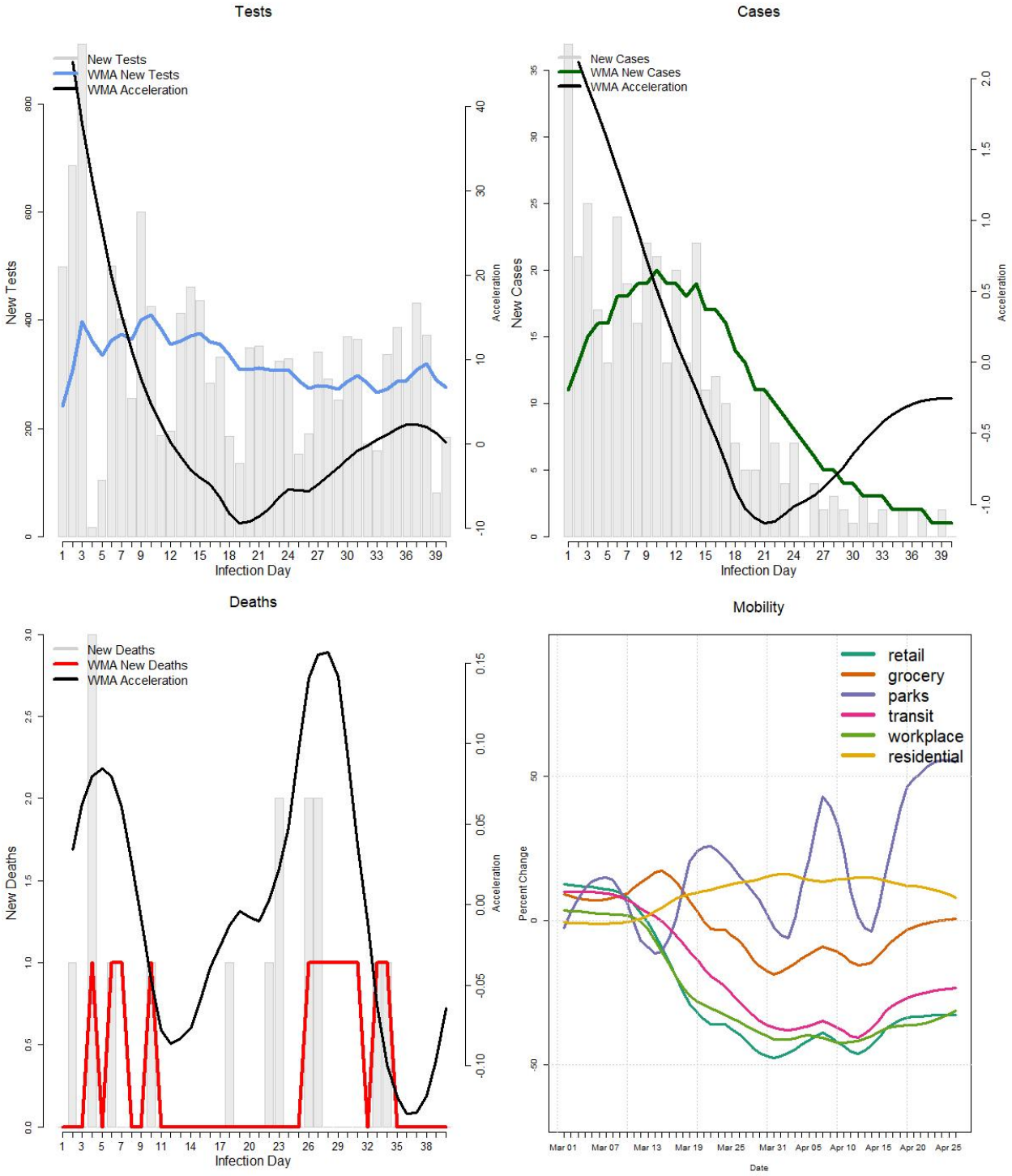
MT



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
MT	2020-03-26	15272	456	16	3	3.5	0	0

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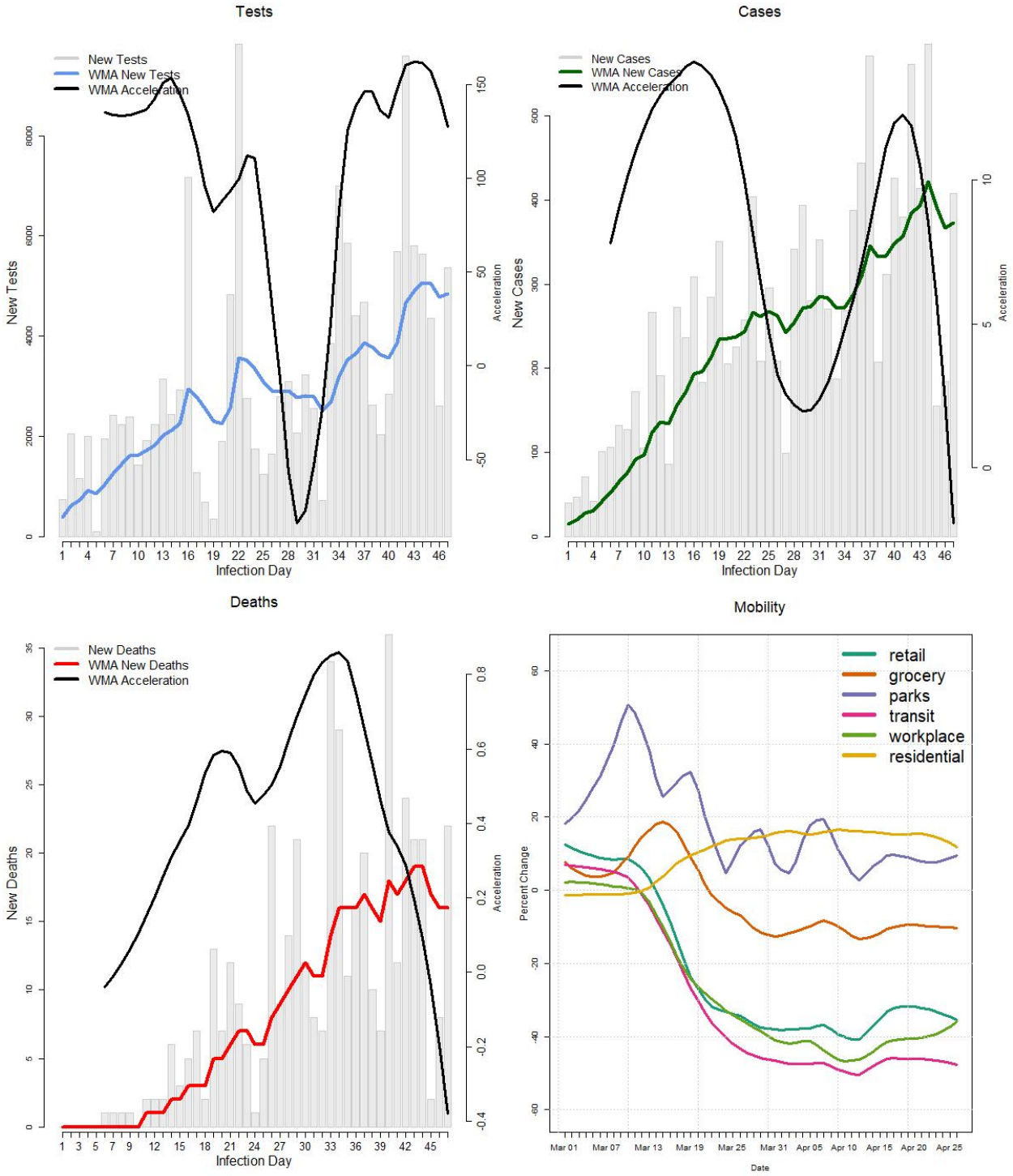
NC



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NC	2020-03-19	151800	12256	452	8.1	3.7	408	22

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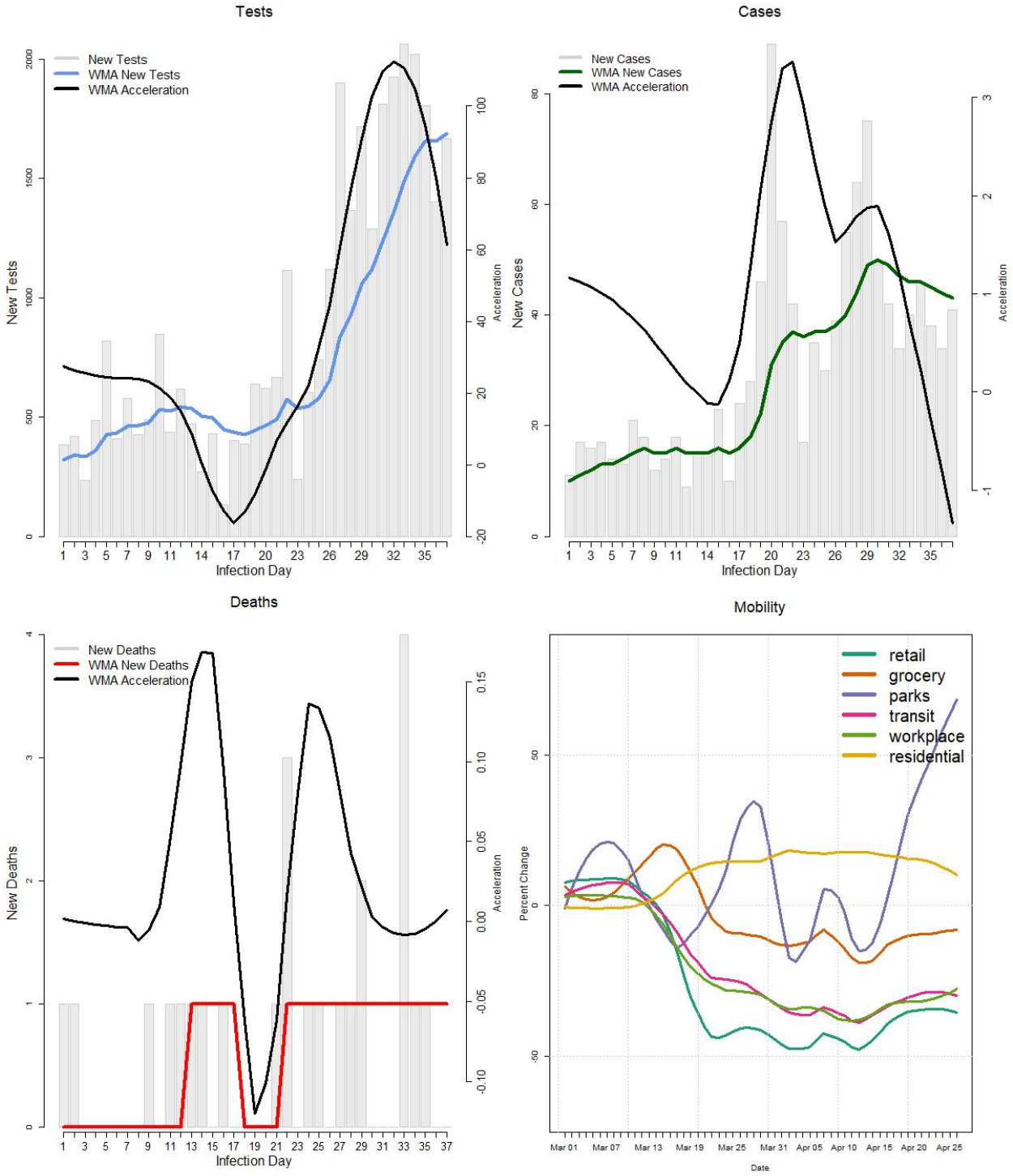
ND



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
ND	2020-03-29	36421	1266	25	3.5	2	41	0

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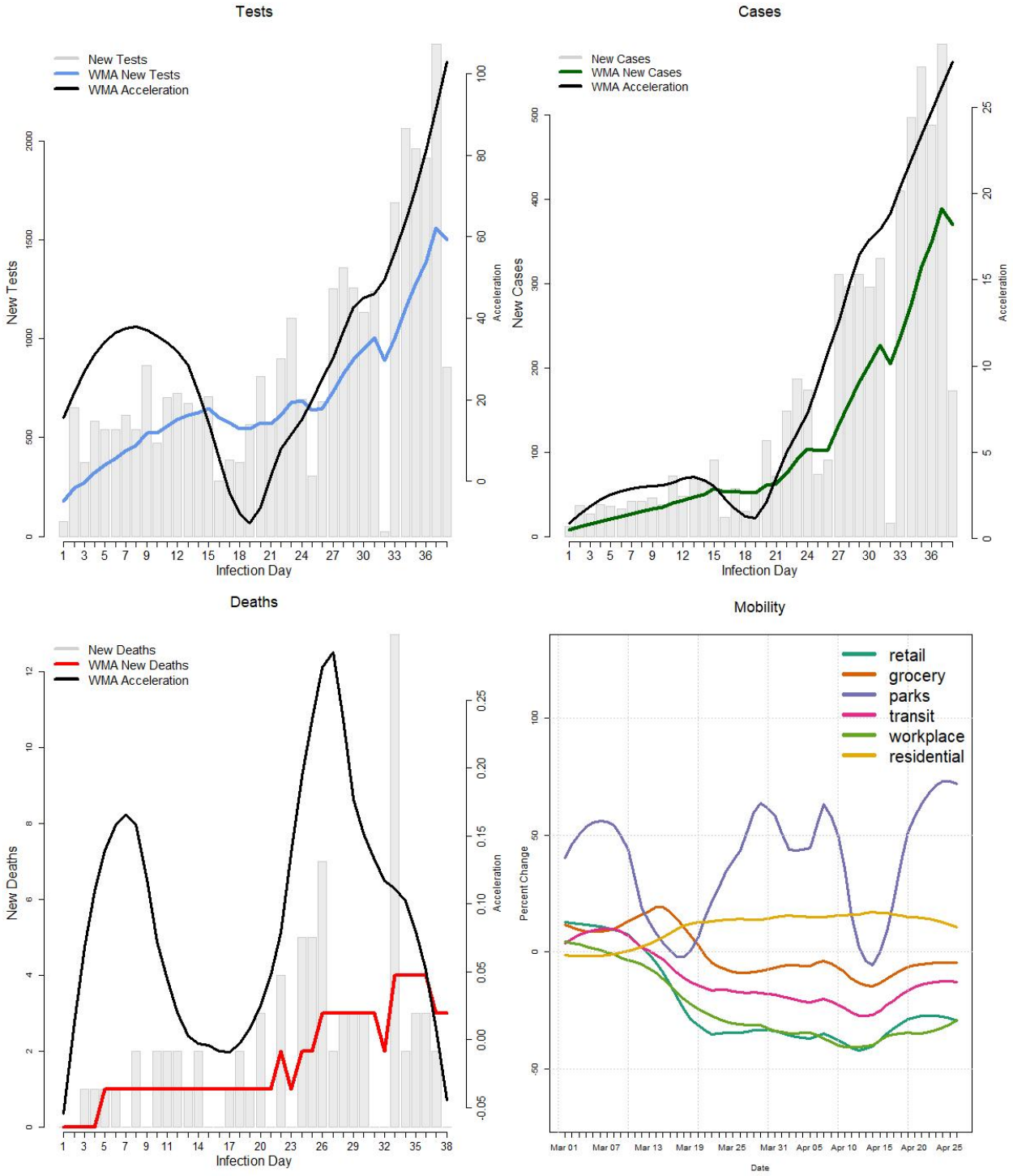
NE



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NE	2020-03-28	34609	6083	78	17.6	1.3	173	0

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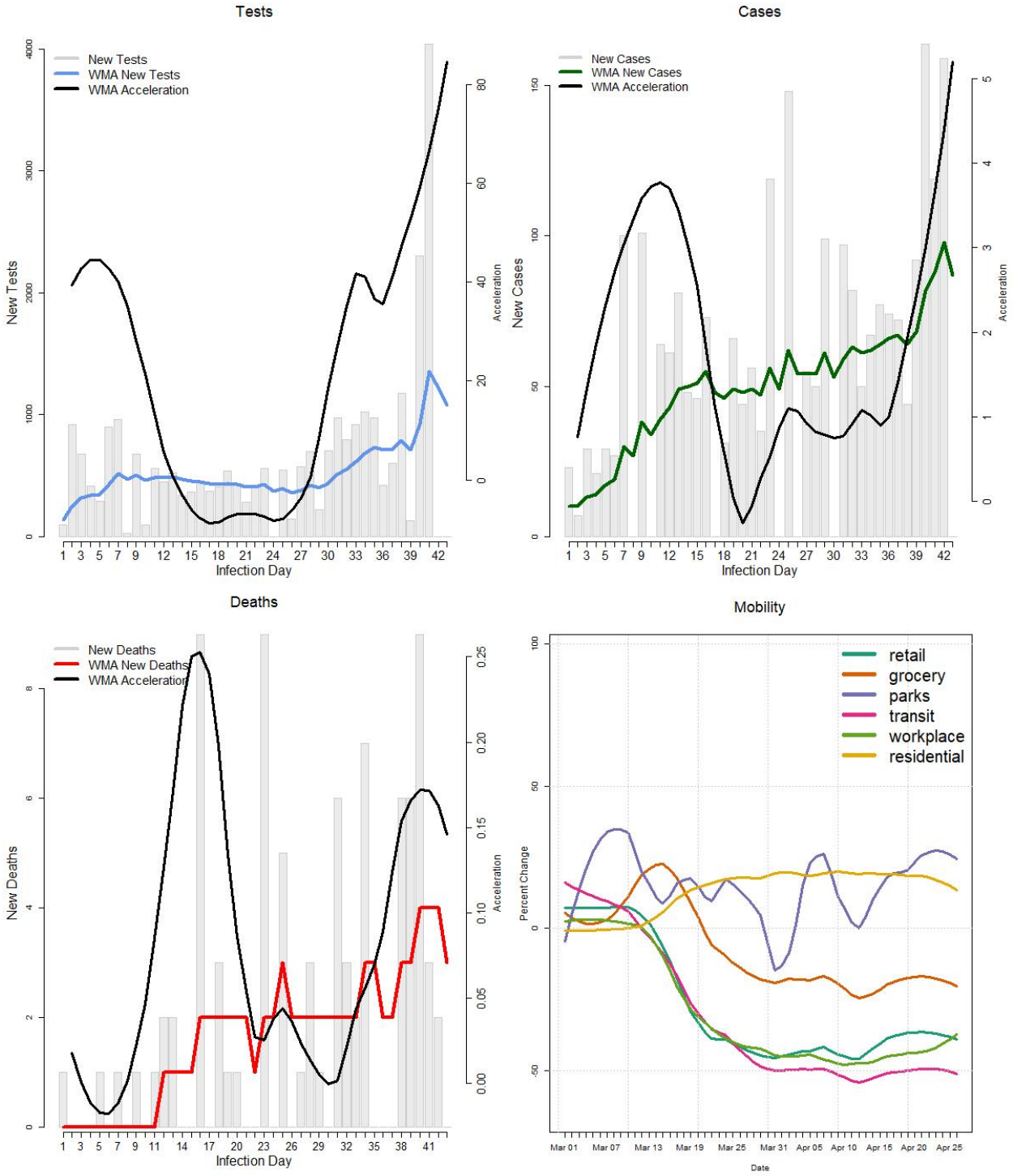
NH



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NH	2020-03-23	26870	2588	86	9.6	3.3	0	0

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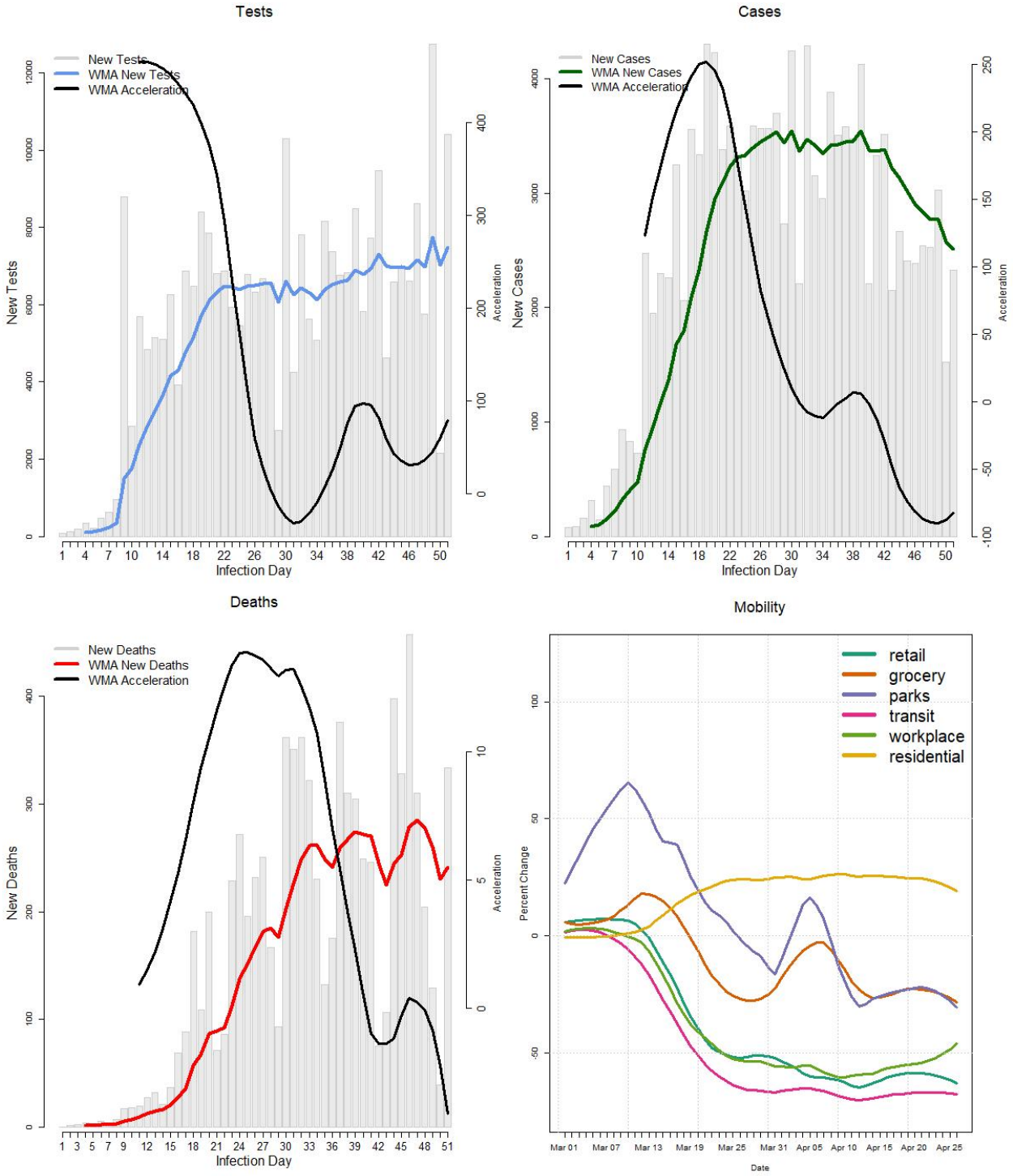
NJ



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NJ	2020-03-15	287623	130593	8244	45.4	6.3	2324	334

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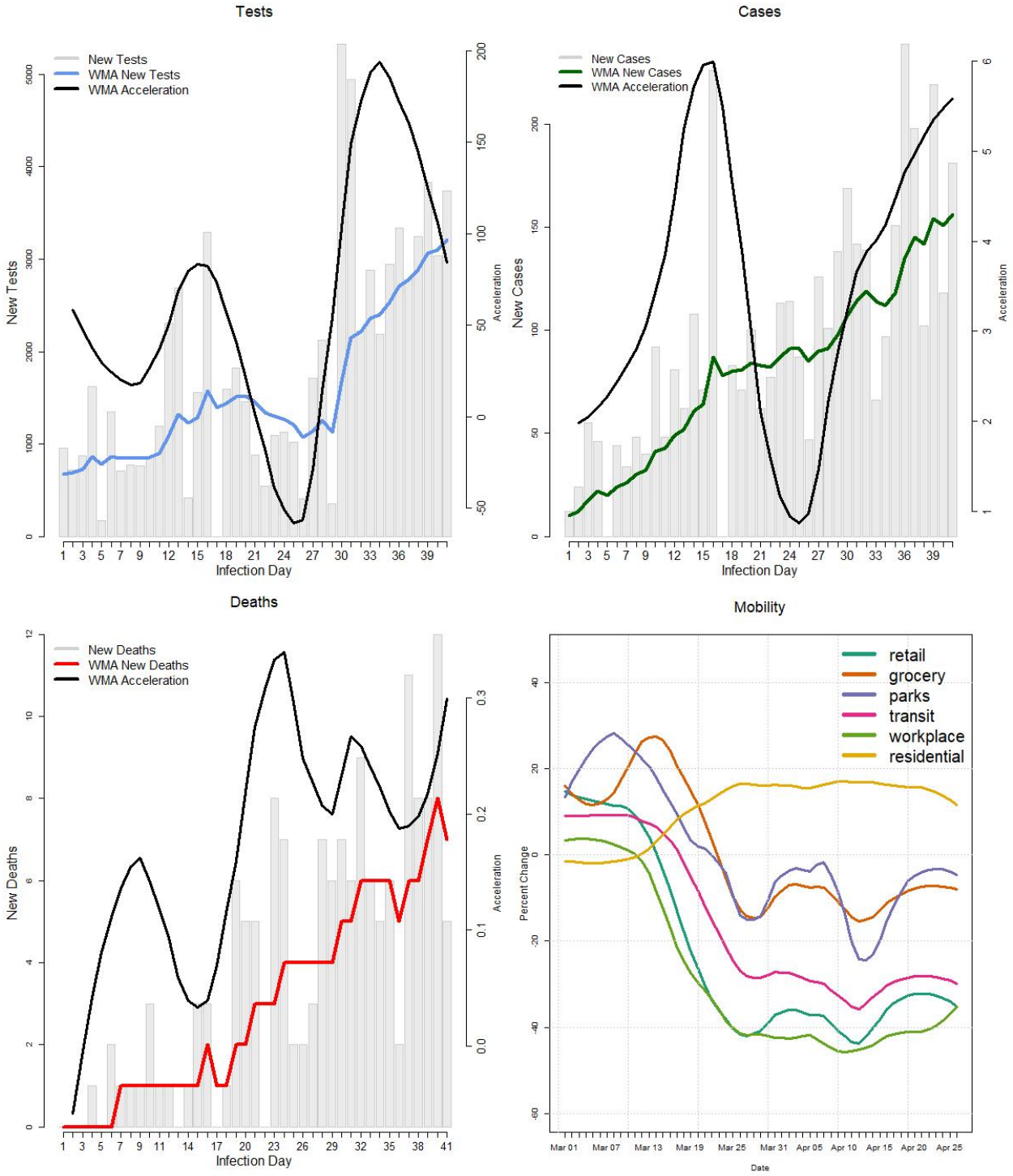
NM



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NM	2020-03-25	81720	4031	156	4.9	3.9	181	5

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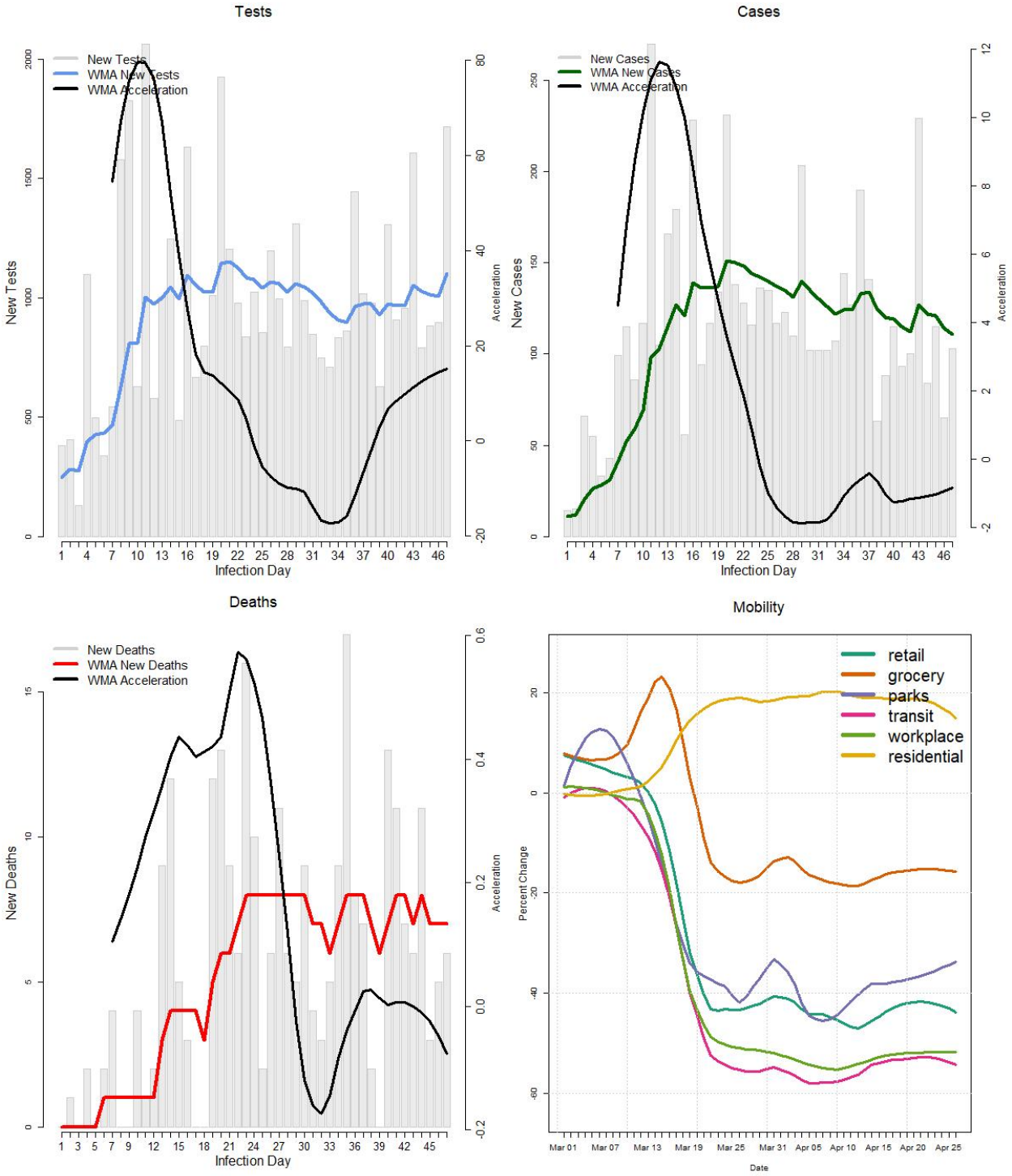
NV



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NV	2020-03-19	47884	5594	268	11.7	4.8	103	6

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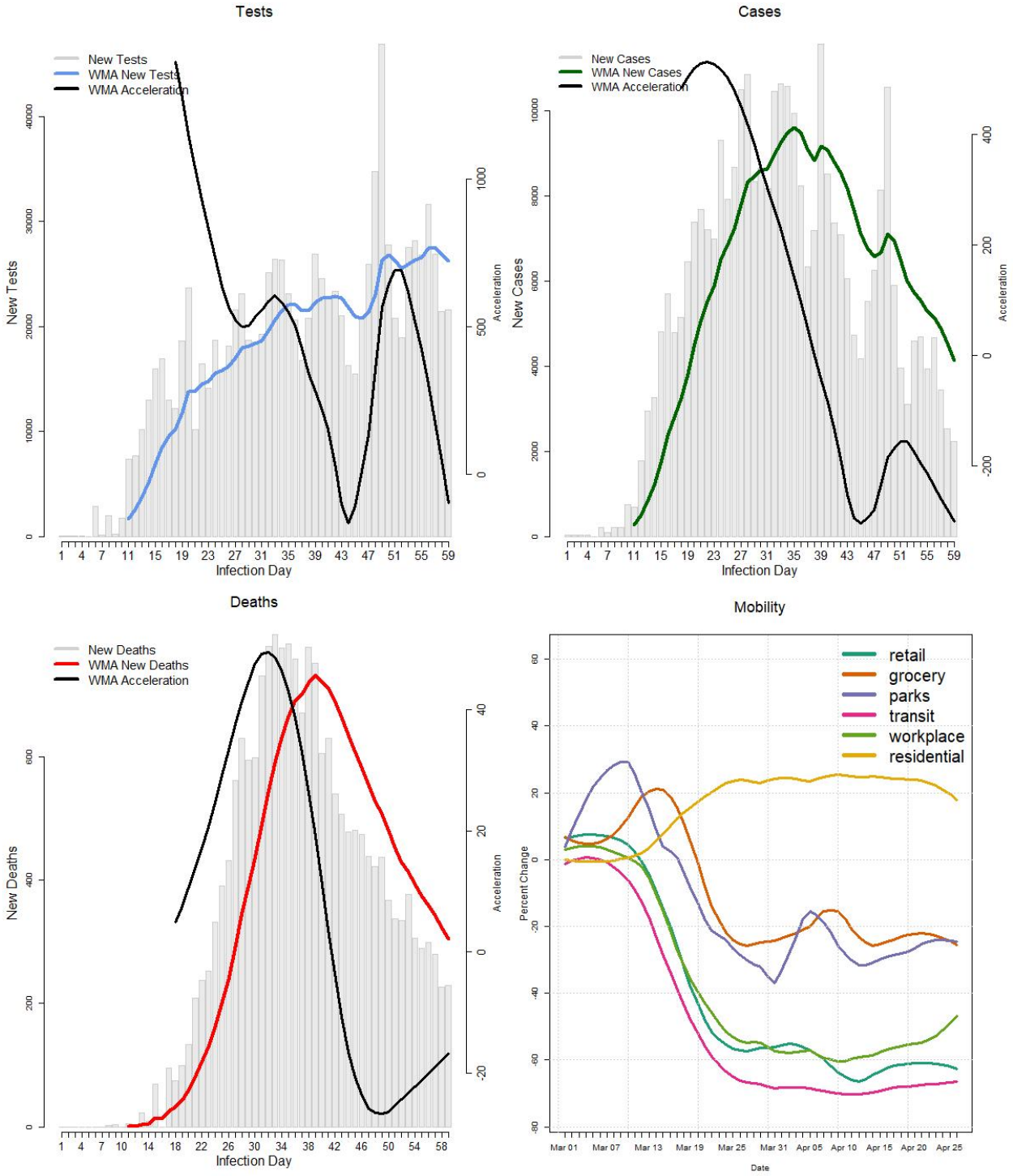
NY



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
NY	2020-03-07	1028899	321192	19645	31.2	6.1	2239	230

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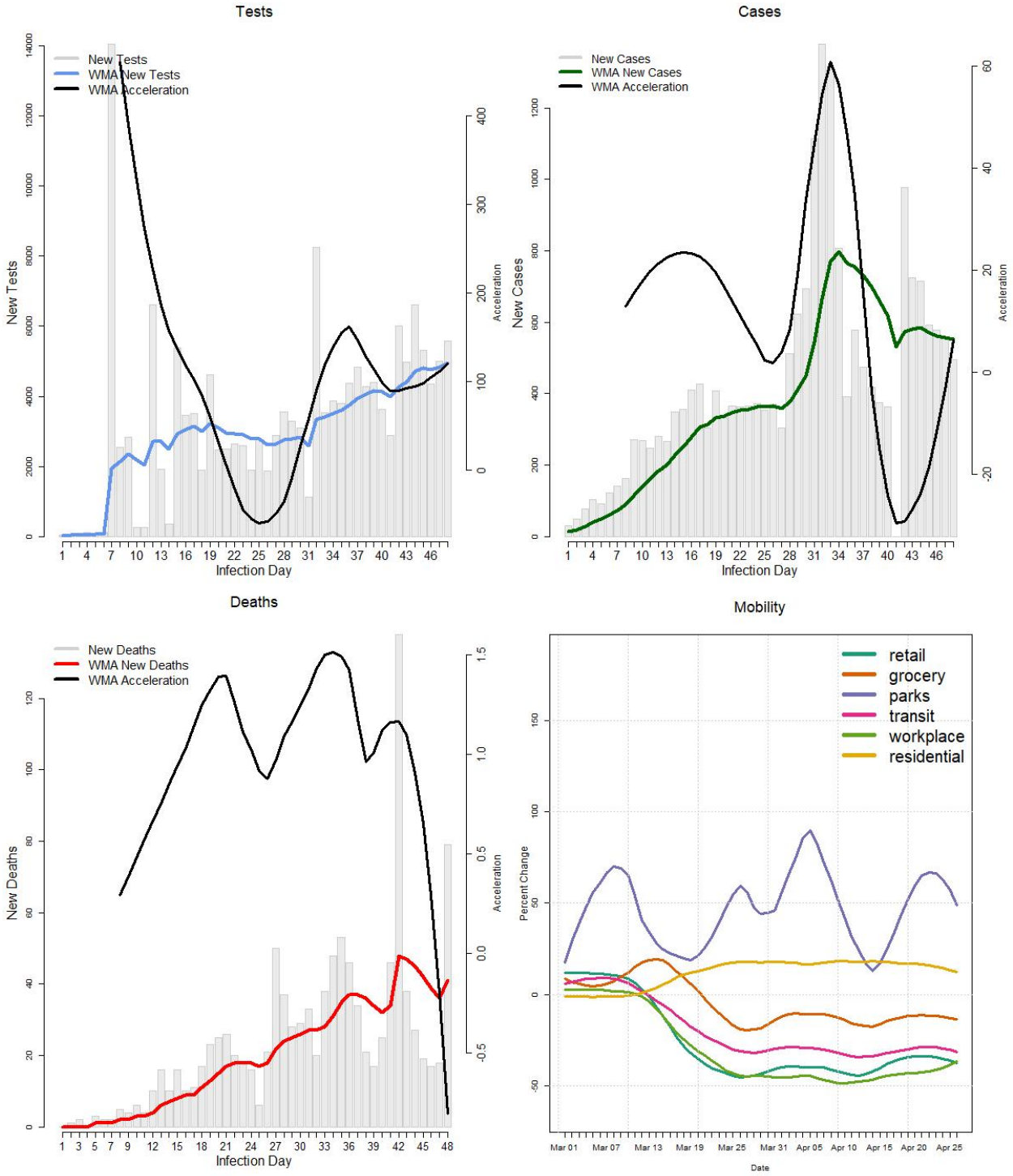
OH



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
OH	2020-03-18	160735	20969	1135	13	5.4	495	79

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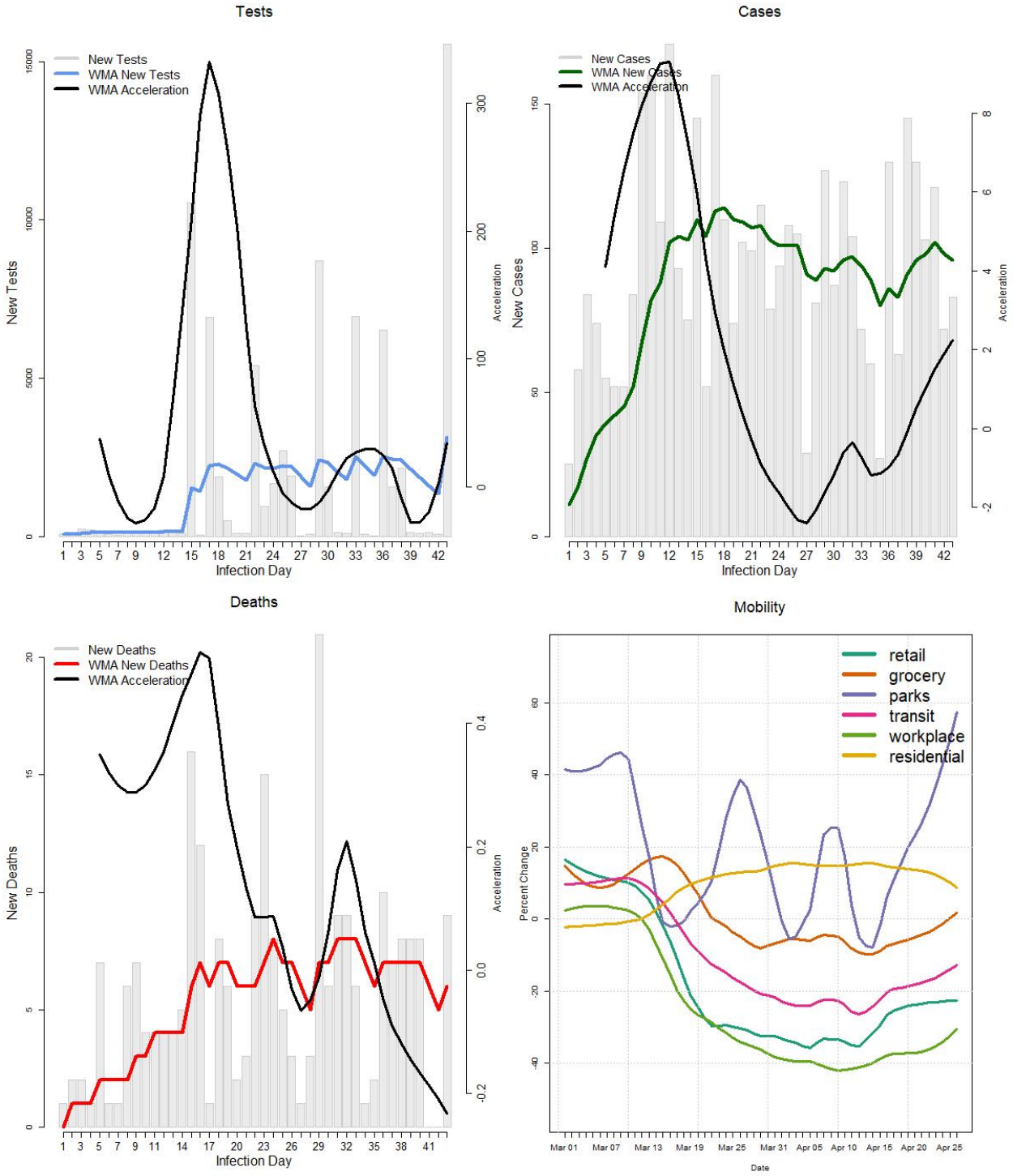
OK



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
OK	2020-03-23	79417	4127	247	5.2	6	83	9

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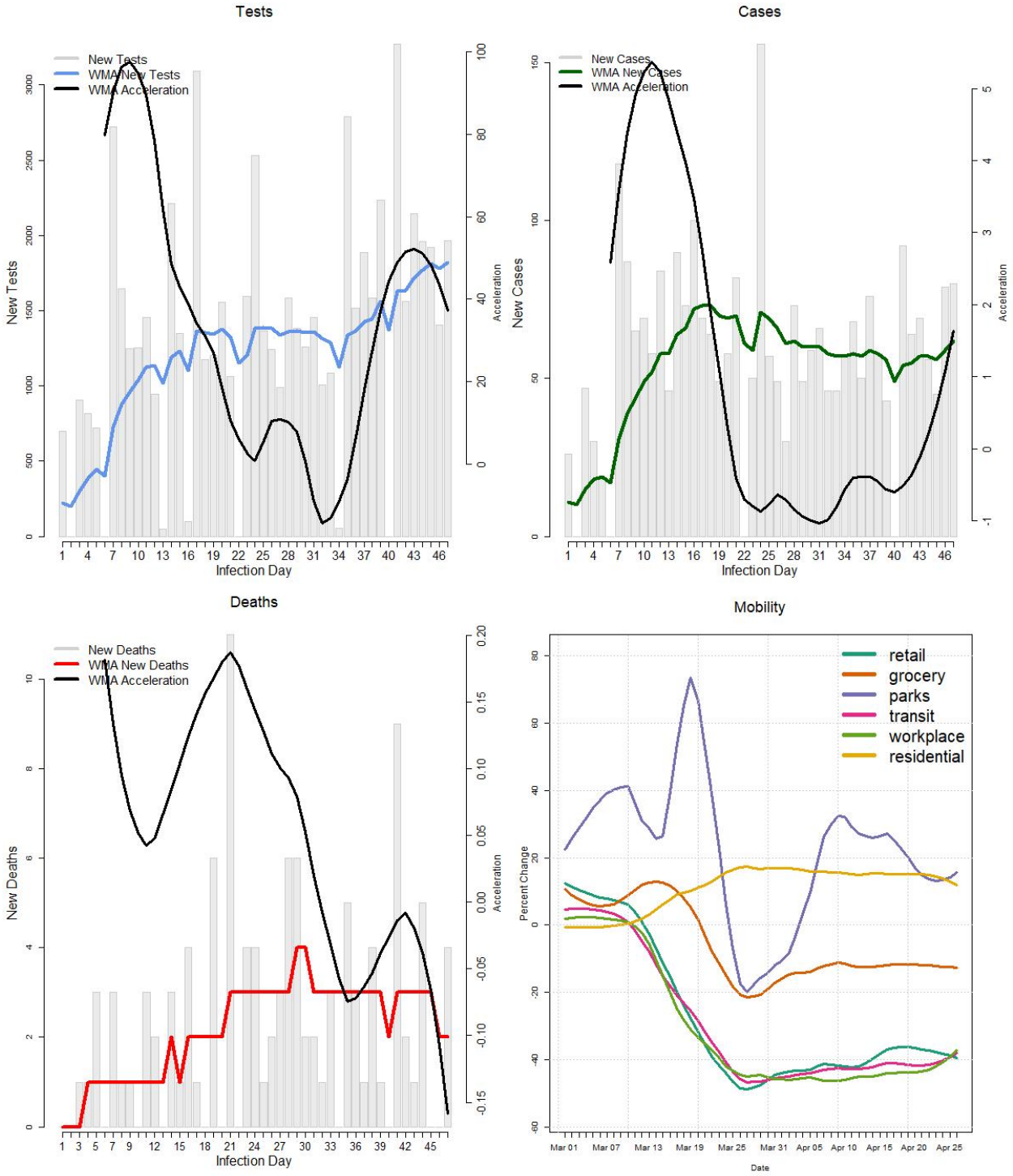
OR



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
OR	2020-03-19	65424	2839	113	4.3	4	80	4

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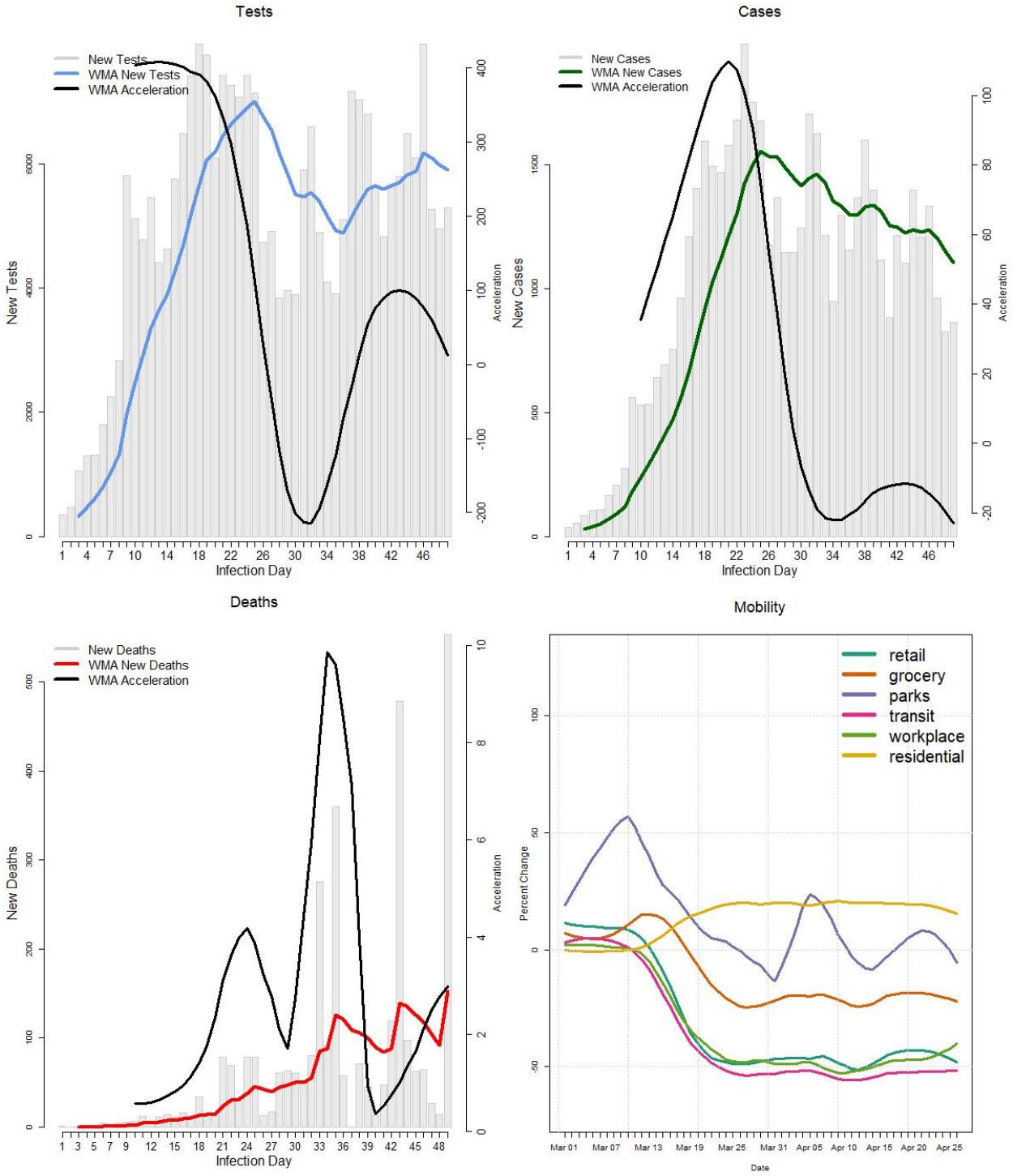
PA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
PA	2020-03-17	250882	50957	3012	20.3	5.9	865	554

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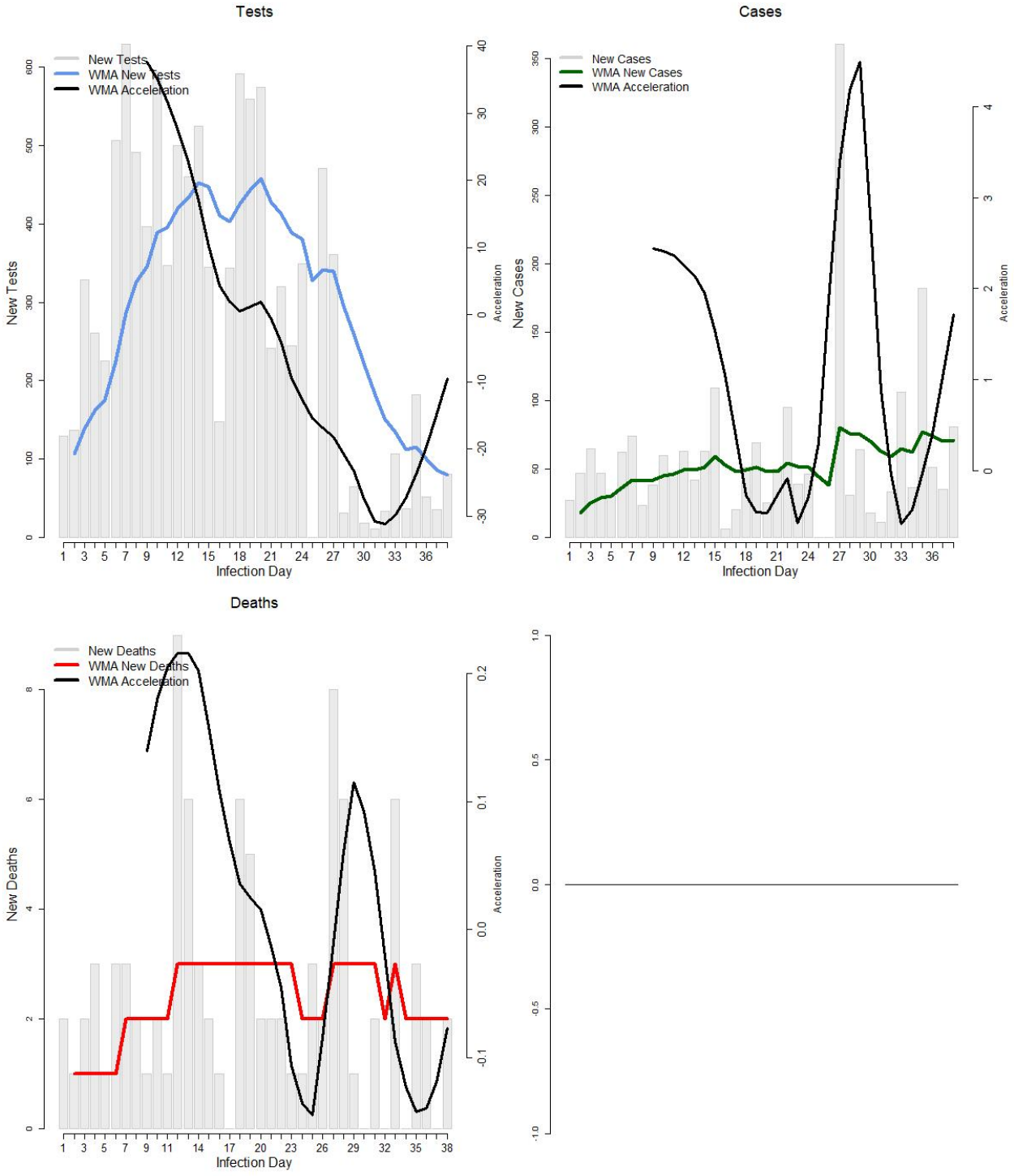
PR



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
PR	2020-03-28	11237	1924	99	17.1	5.1	81	2

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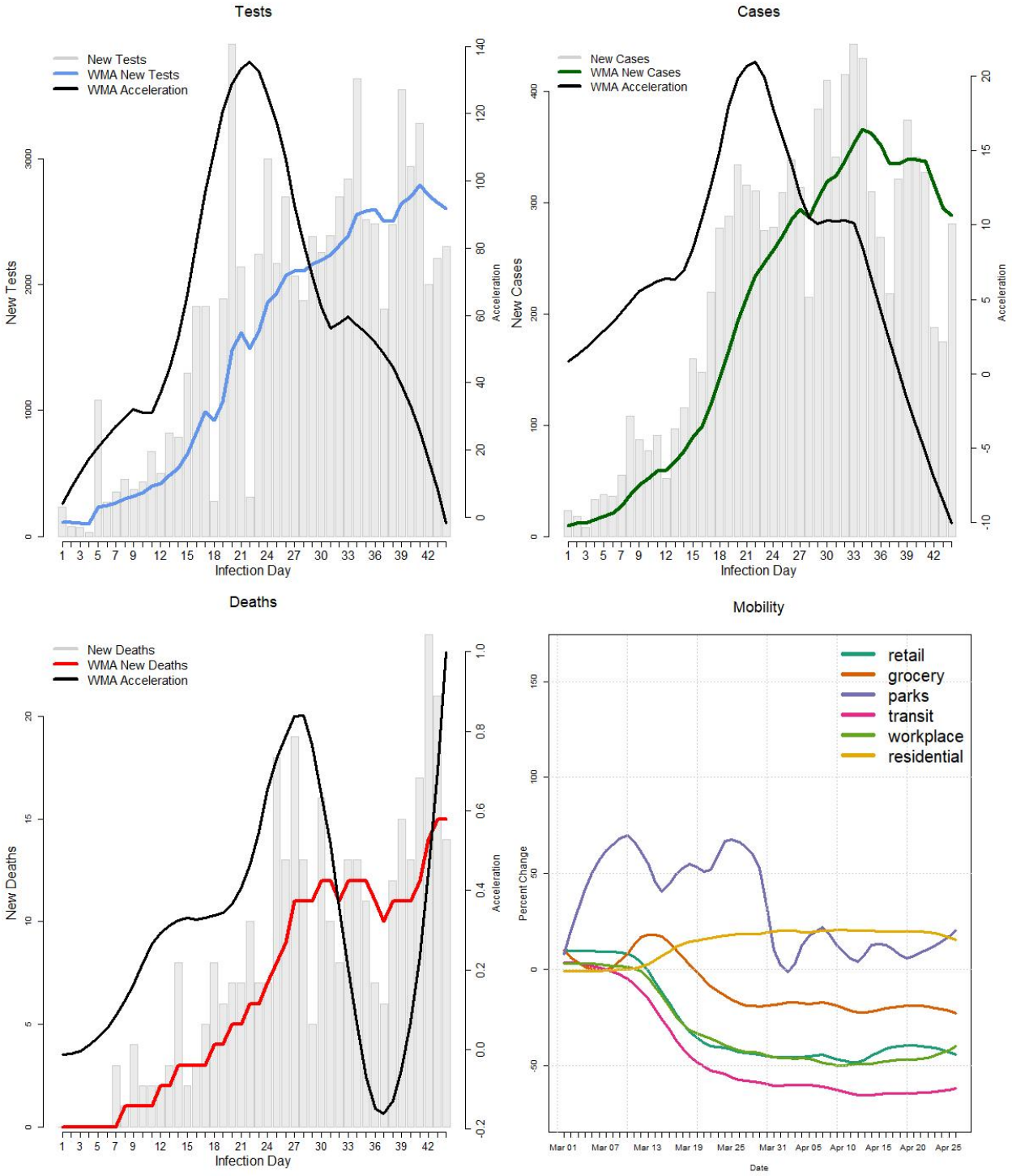
RI



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
RI	2020-03-22	76435	9933	355	13	3.6	281	14

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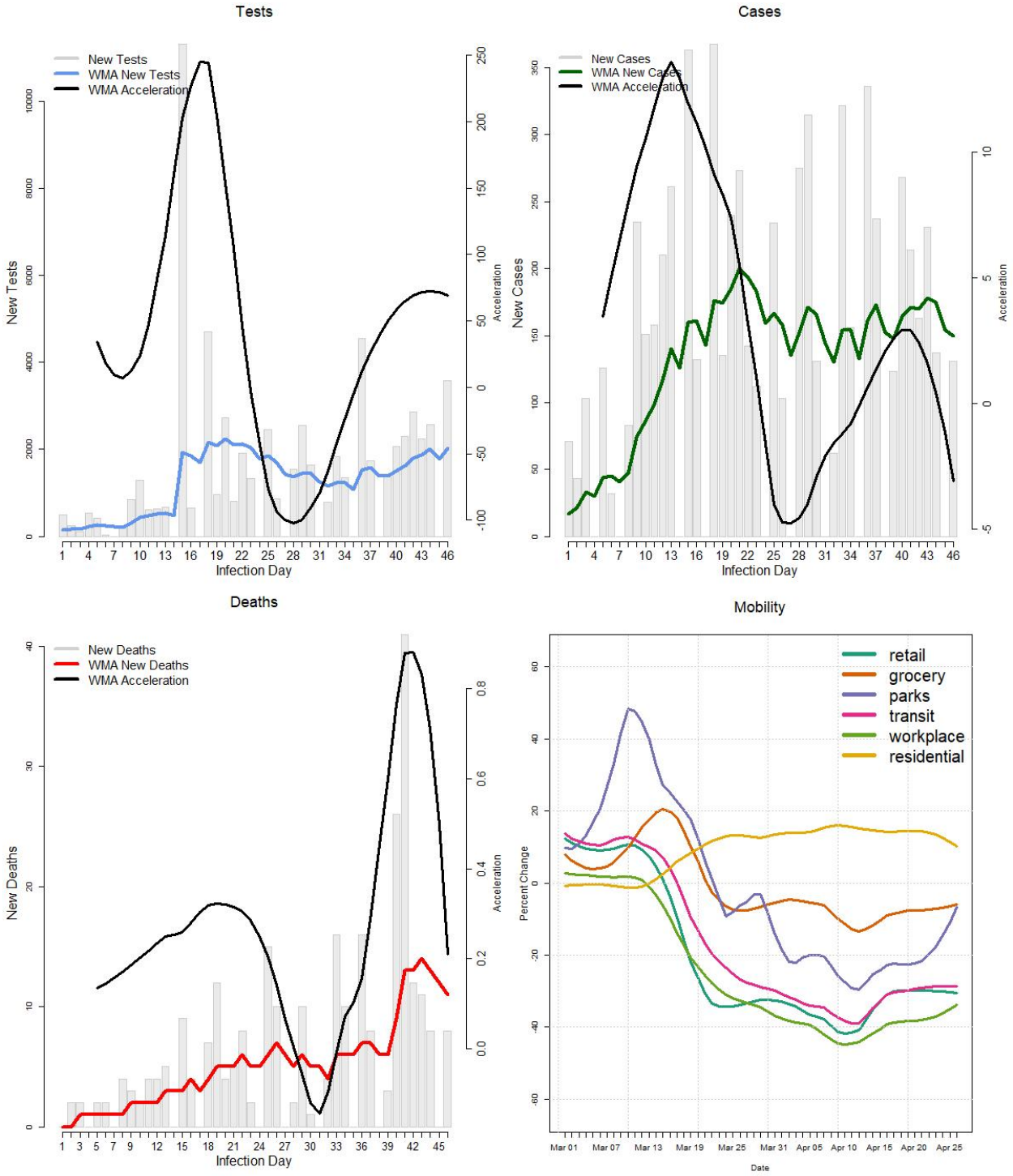
SC



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
SC	2020-03-20	67771	6757	283	10	4.2	131	8

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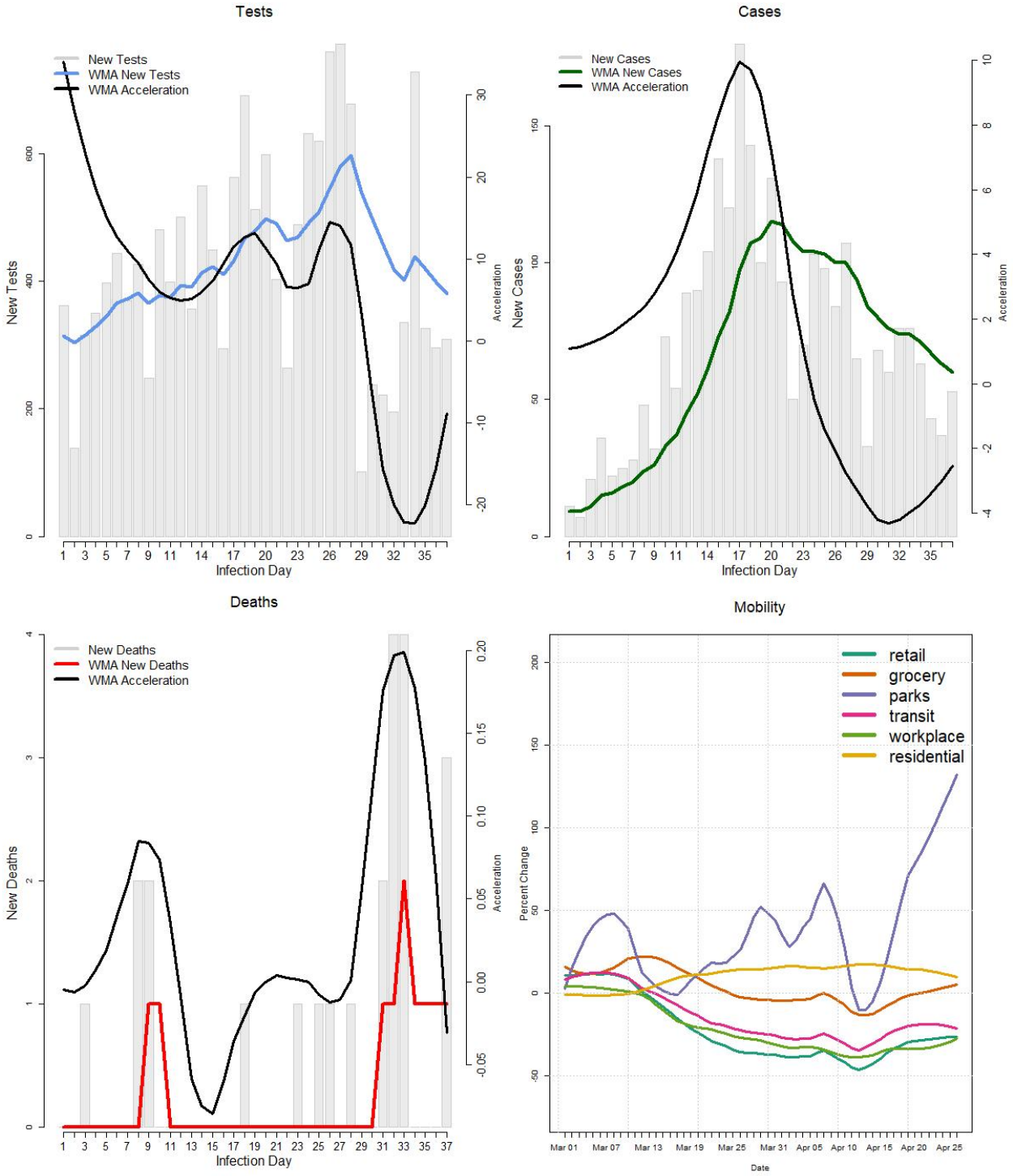
SD



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
SD	2020-03-29	19022	2721	24	14.3	0.9	53	3

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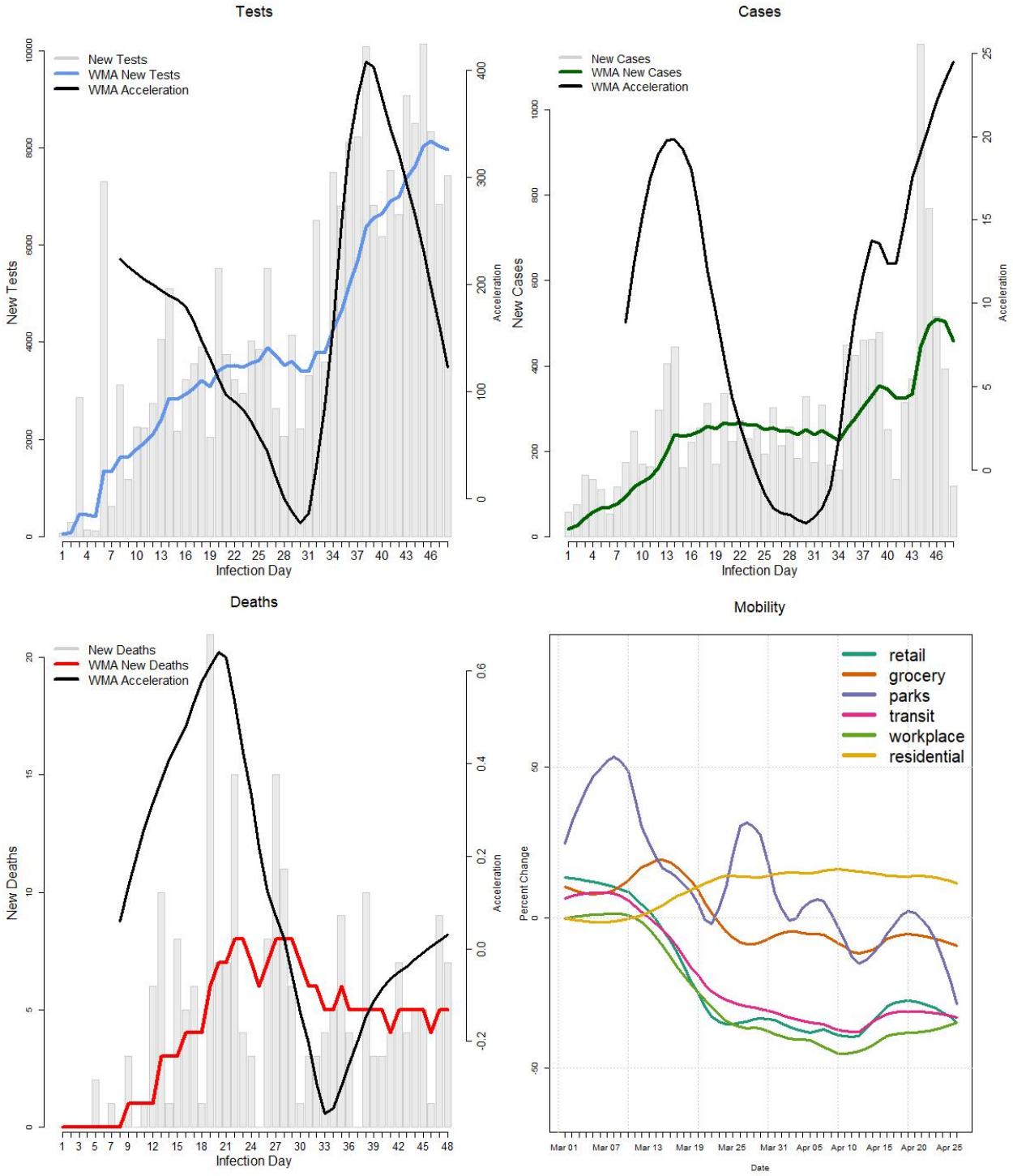
TN



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
TN	2020-03-18	218862	13690	226	6.3	1.7	119	7

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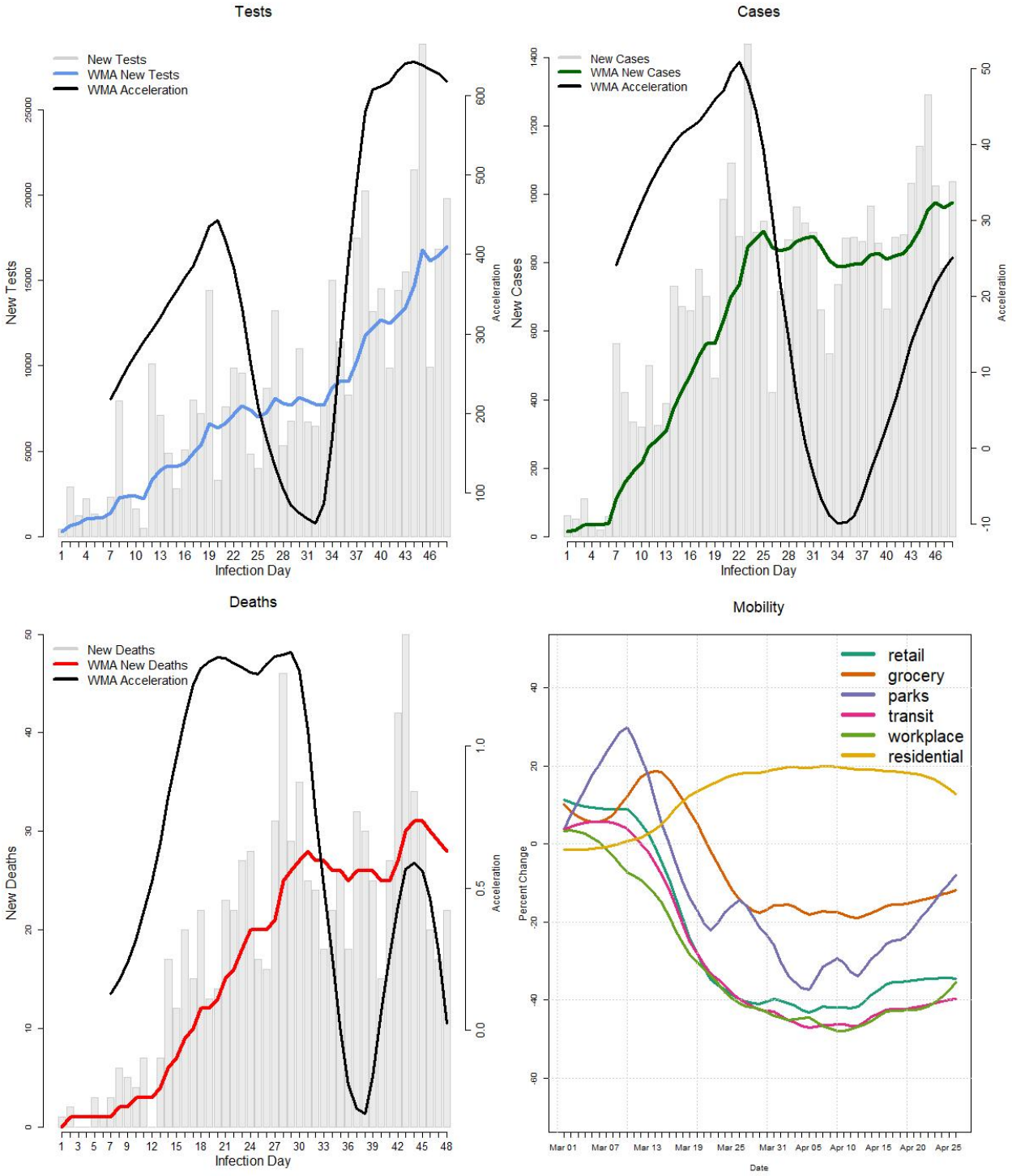
TX



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
TX	2020-03-18	427210	33369	906	7.8	2.7	1037	22

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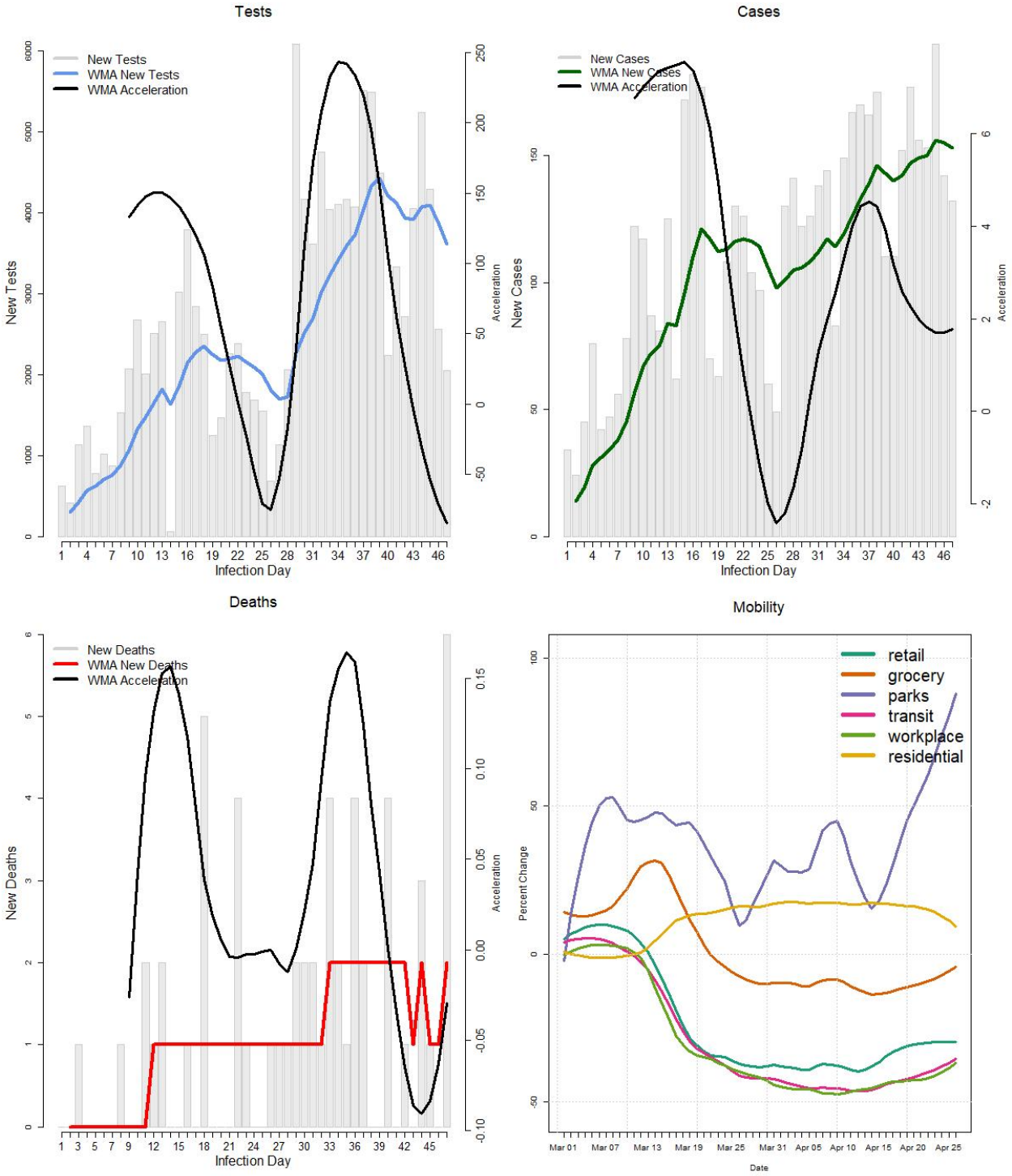
UT



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
UT	2020-03-19	126715	5449	56	4.3	1	132	6

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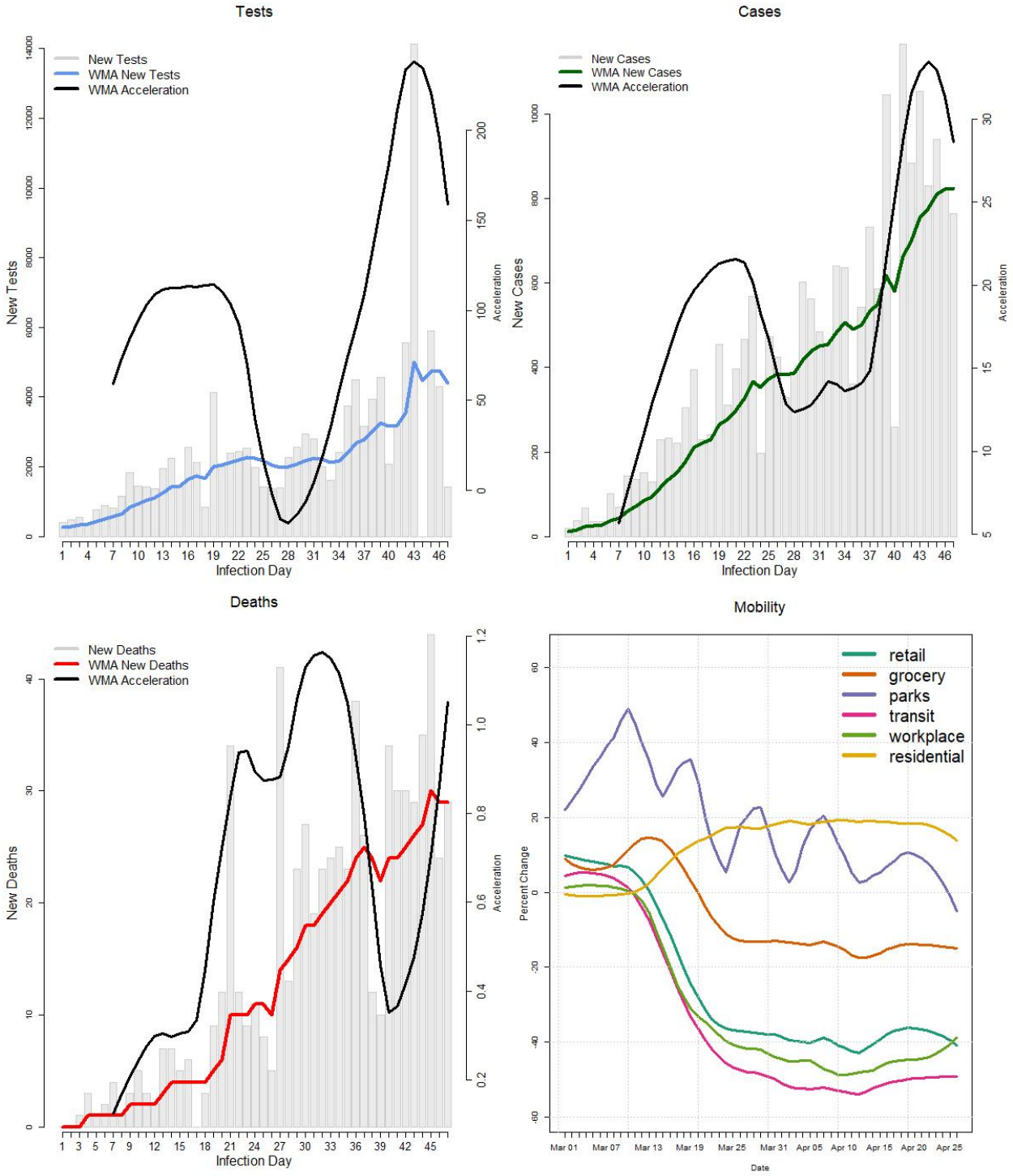
VA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
VA	2020-03-19	113708	20256	713	17.8	3.5	764	29

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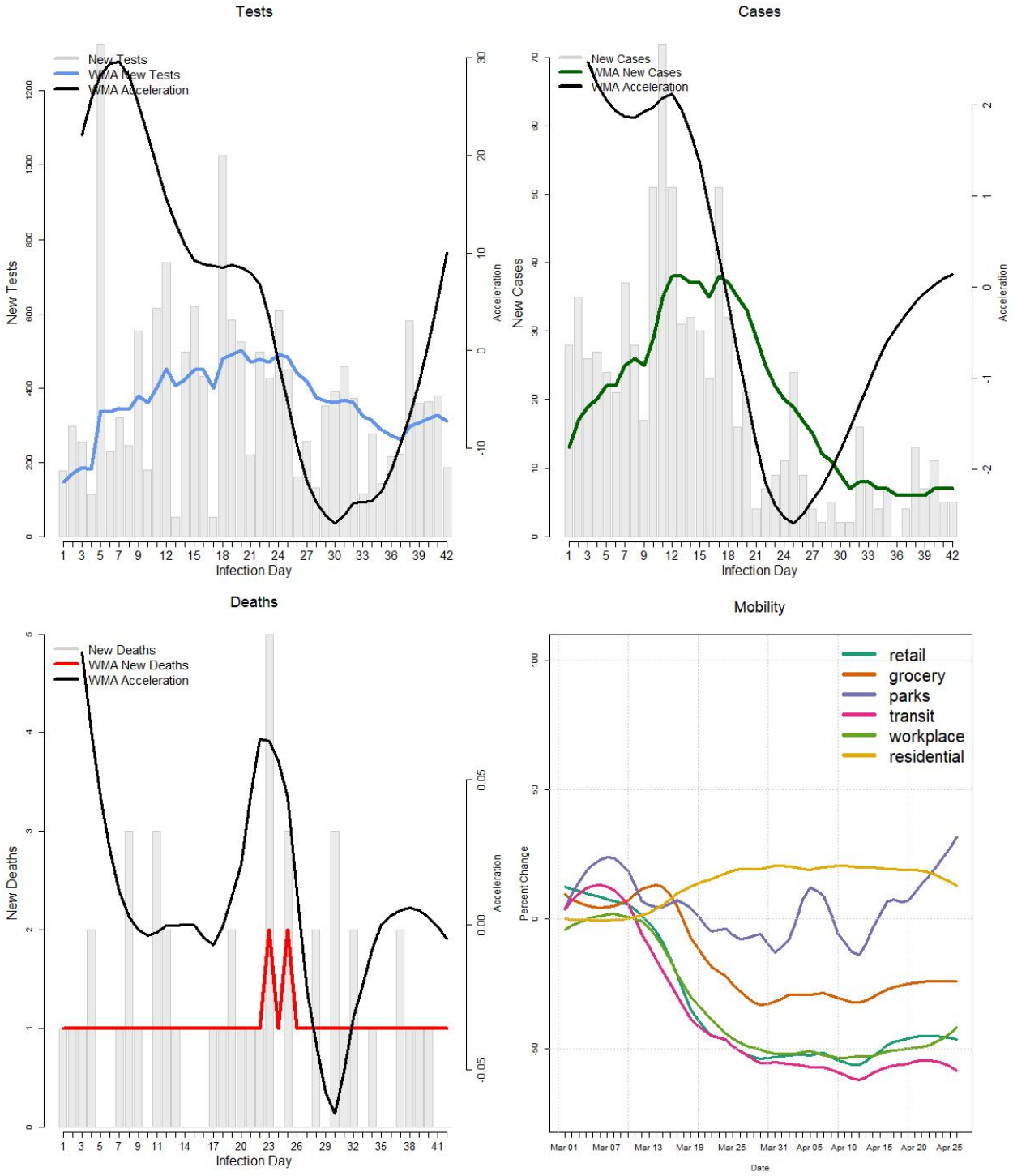
VT



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
VT	2020-03-24	17518	907	52	5.2	5.7	5	0

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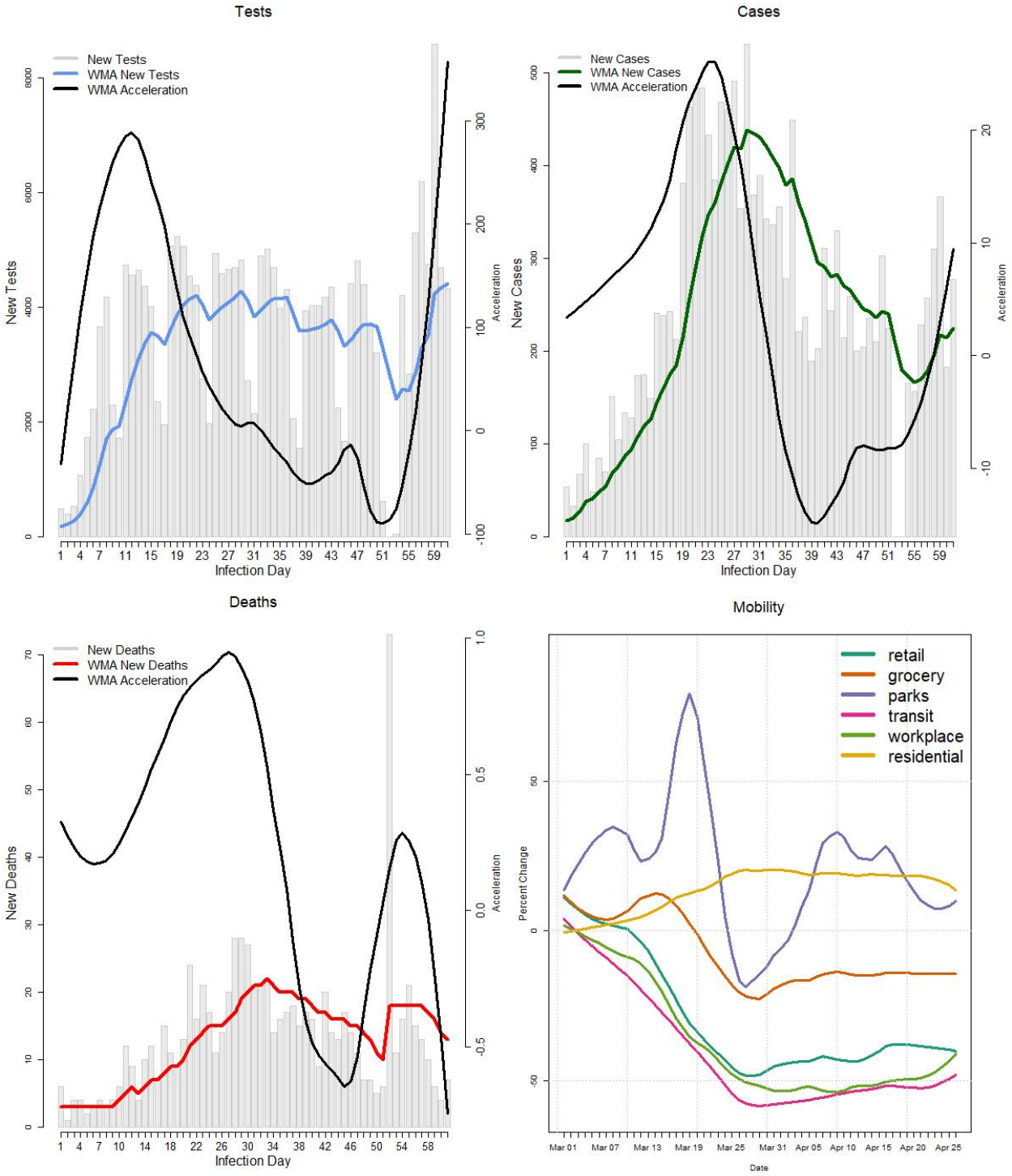
WA



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
WA	2020-03-05	216320	15462	841	7.1	5.4	277	7

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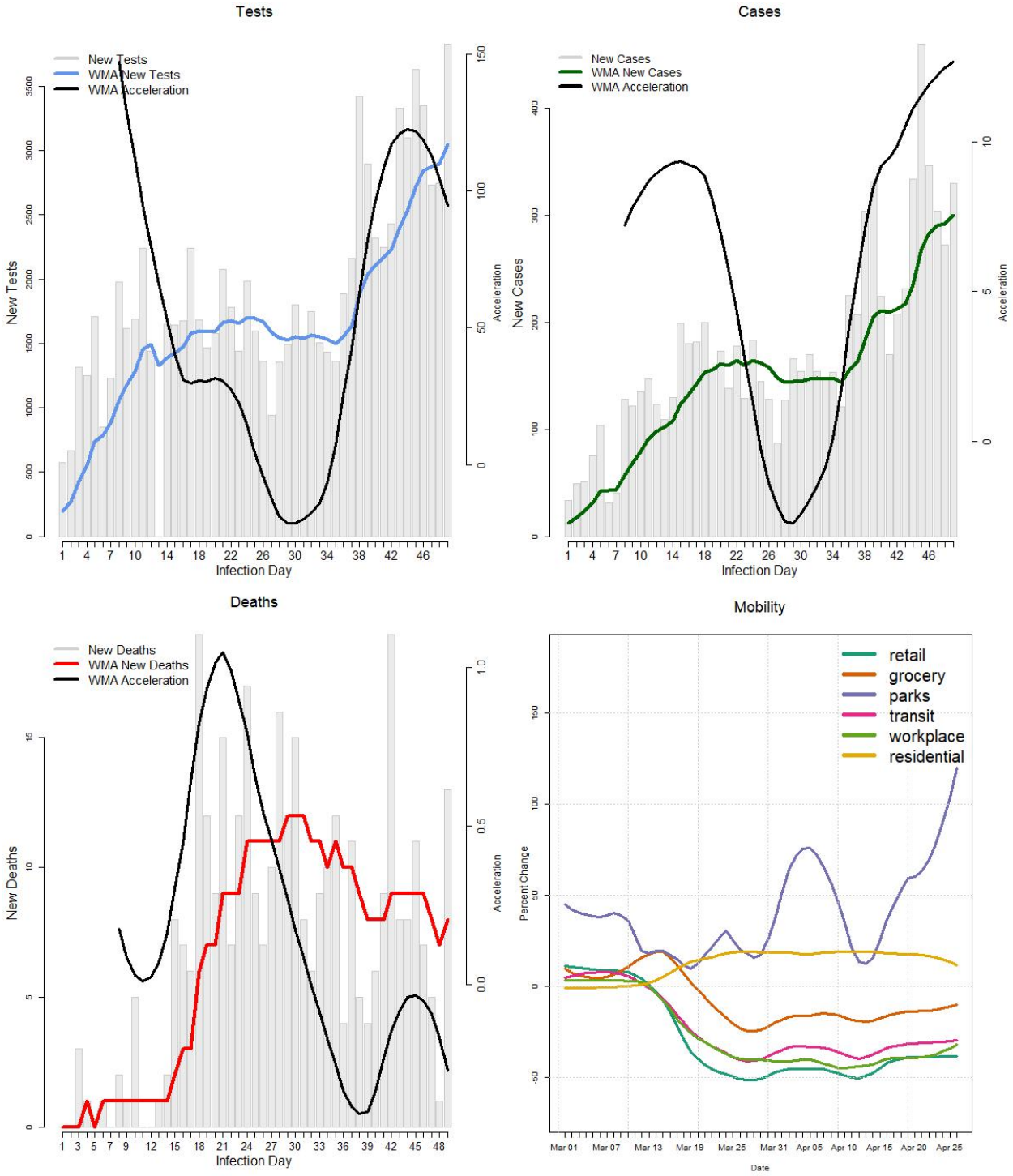
WI



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
WI	2020-03-17	92533	8566	353	9.3	4.1	330	13

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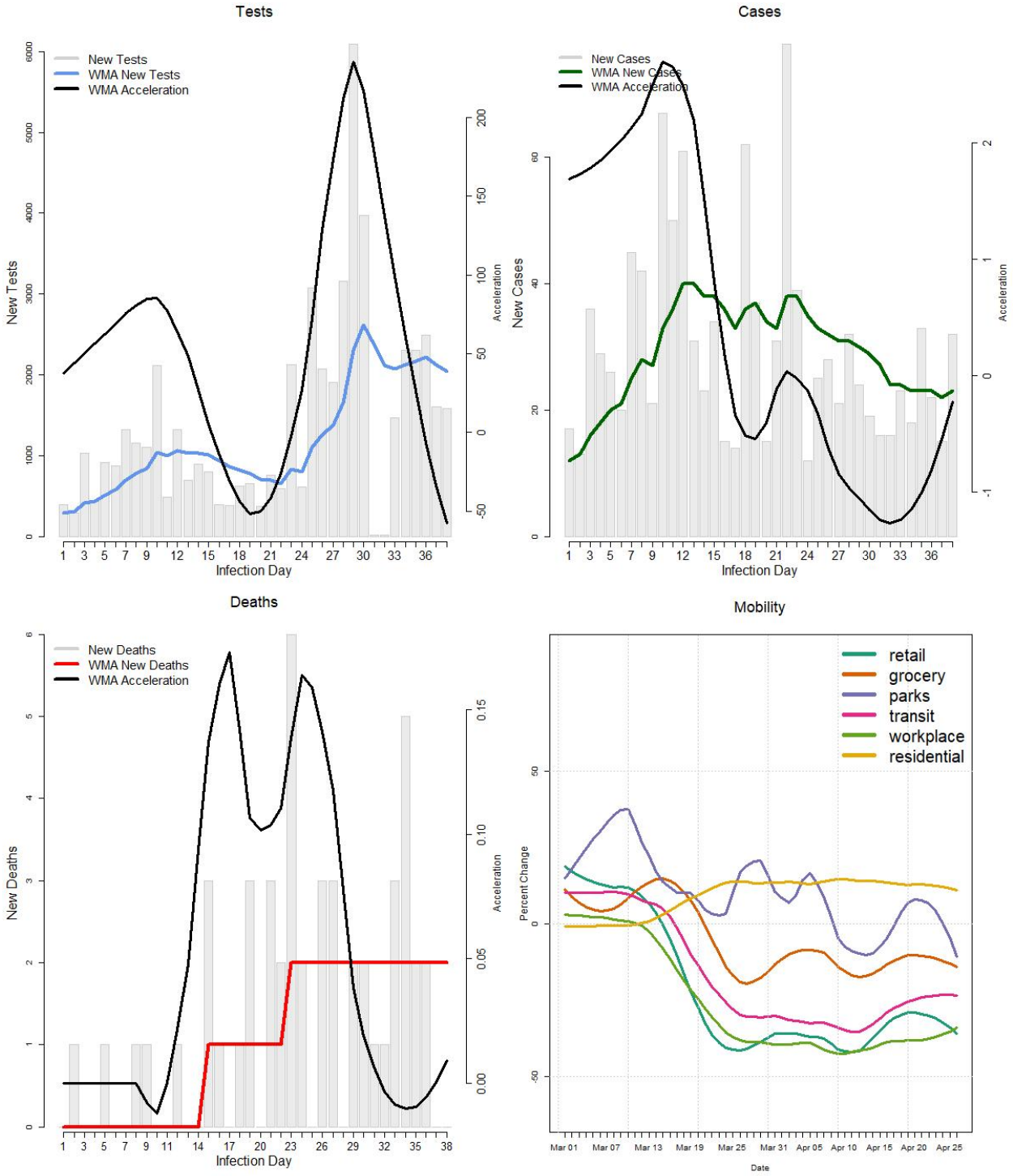
WV



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
WV	2020-03-28	54823	1238	50	2.3	4	32	0

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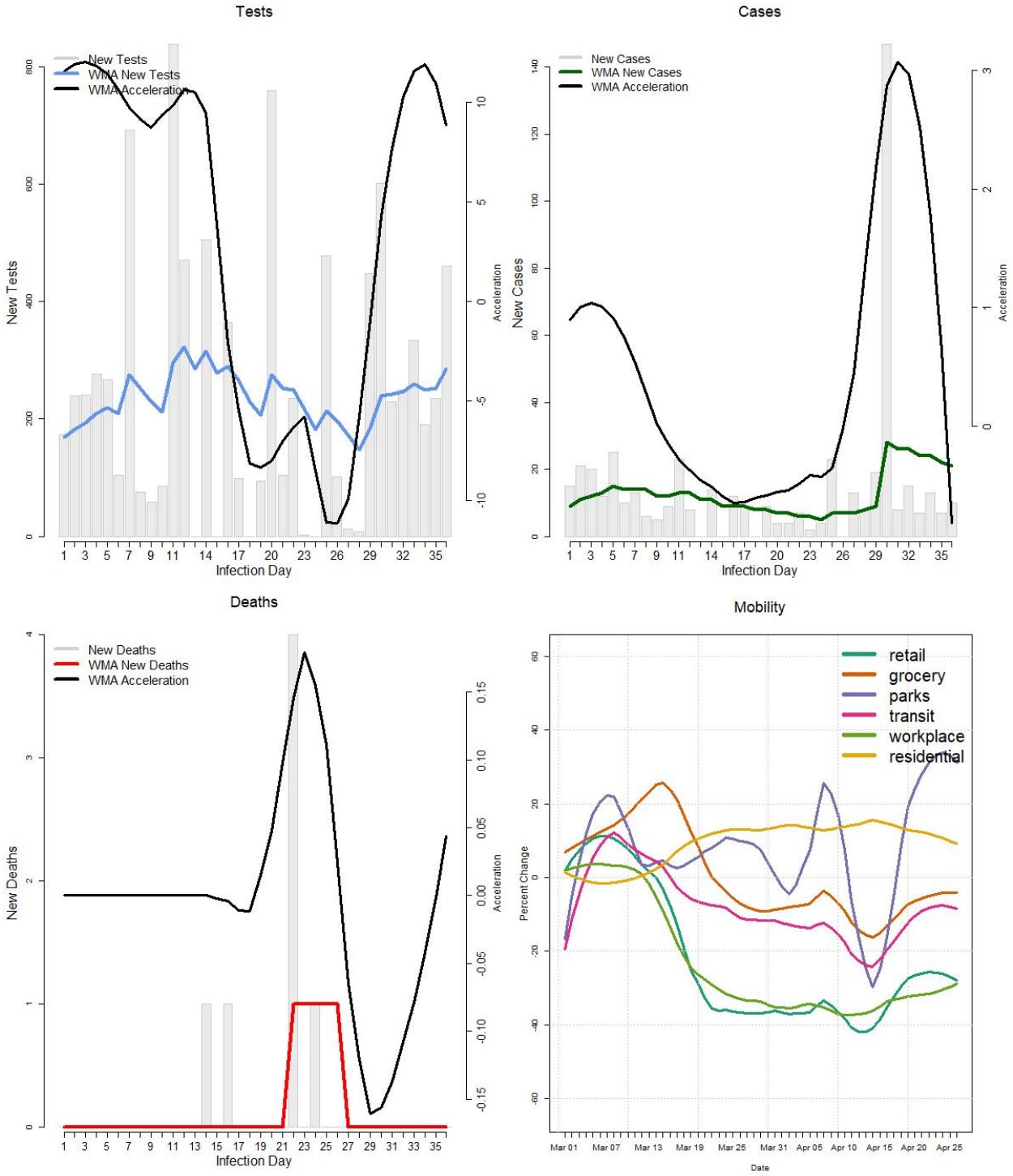
WY



Metrics as of 2020-05-06

State	Infected Date	Tests	Positive	Deaths	Pos Rate (%)	Death Rate (%)	New Cases	New Deaths
WY	2020-03-30	10915	596	7	5.5	1.2	10	0

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