

COVID-19 assessment of reopening Georgia

Stephen Beckett, Marian Dominguez-Mirazo, Seolha Lee, Clio Andris, Joshua Weitz
Georgia Institute of Technology (dated April 28th)

This report analyses the potential risk of re-opening Georgia. We fit models to data for Georgia on March 28, 2020; and project forward in time under a scenario with a 50% reduction in COVID-19 transmission rates due to social-distancing interventions. We adjust model fits on April 28th and simulate forward to May 1, where back to business as usual, continued intervention, or increased intervention scenarios are implemented. We find that social distancing interventions are working, but that relaxing them may lead to further increases in cases, hospitalizations and deaths.

Social distancing policies are saving lives

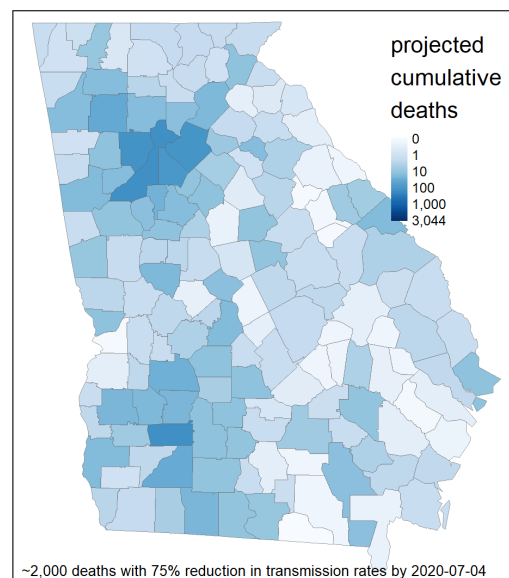
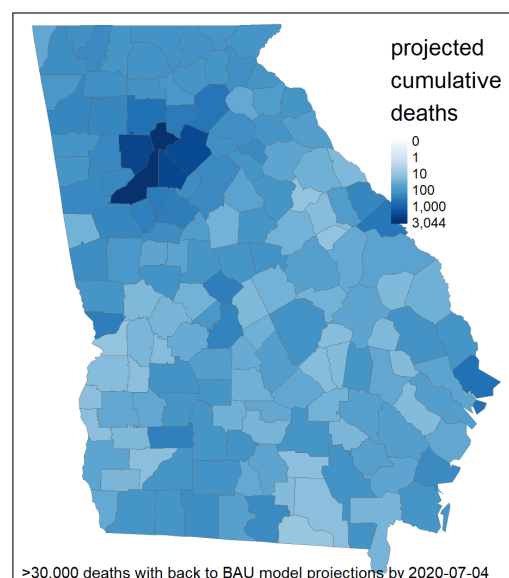
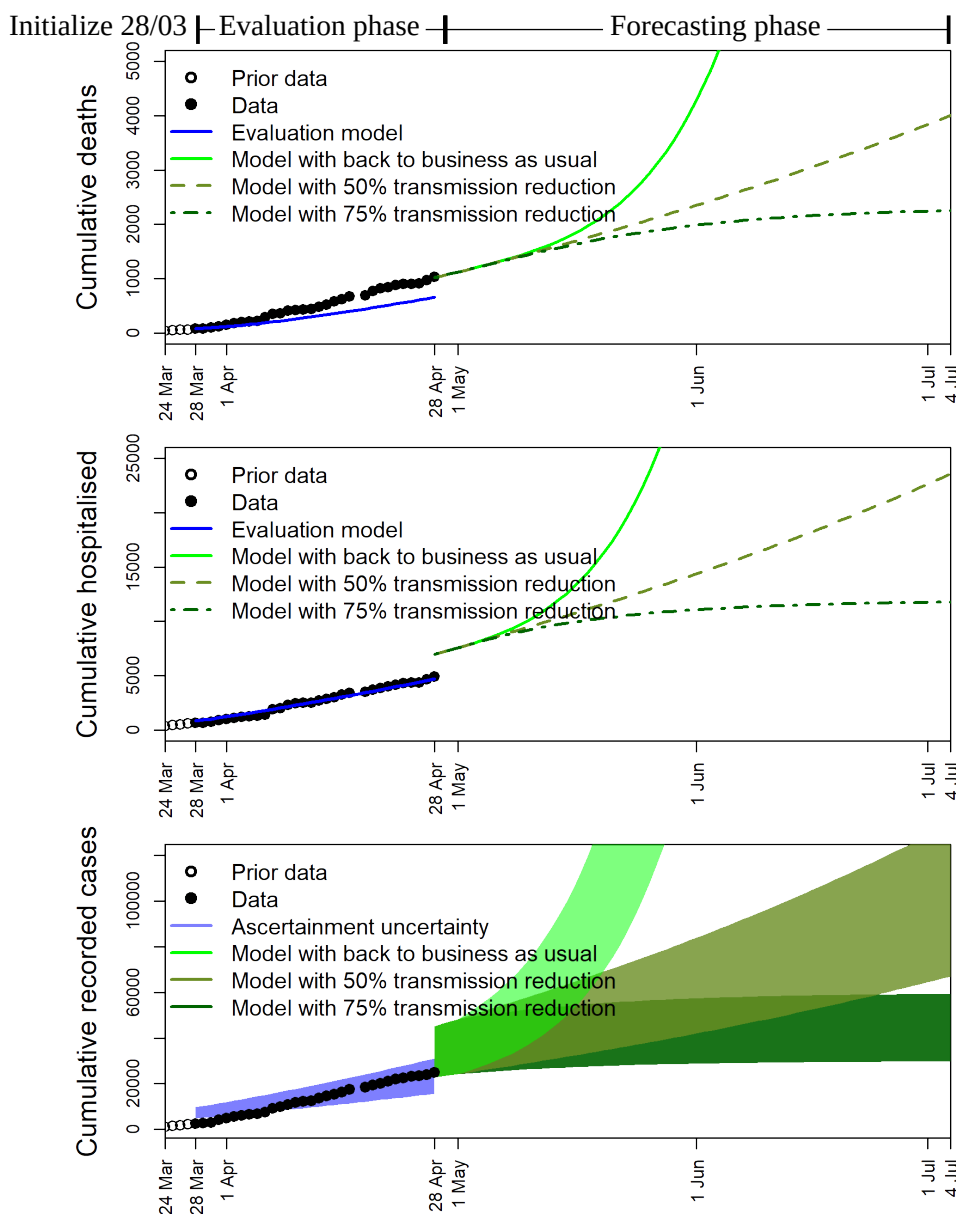
Reopening threatens to lead to an increase in cases as the population is immunologically naïve.

Many more cases exist than are measured

Our models suggest Georgia is detecting between one of every five to ten COVID-19 cases. Both serological and viral shedding tests are urgently required at scale to assess the true prevalence.

COVID-19 is a long-term challenge

Even in the best case scenarios, COVID-19 remains a threat post-Memorial Day. Relaxing social distancing interventions now without robust plans to contain the outbreak endangers lives.



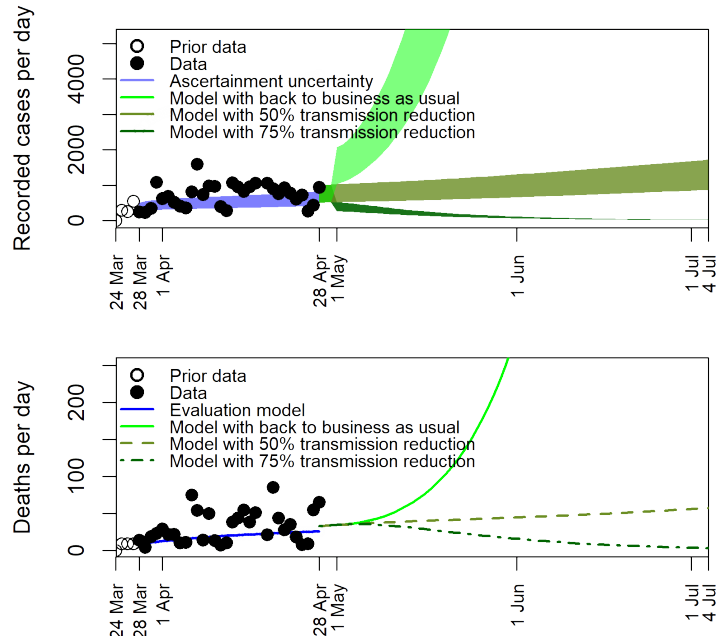
Social distancing policies are saving lives

Current estimates suggest Georgia has reduced mobility by around 40-60%, consistent with a 50% reduction in transmission. Our scenarios suggest that social distancing interventions have saved thousands of lives and that without social distancing the impacts of COVID-19 would, and still could be far deadlier. Our simulations suggest that current social distancing interventions may lead to a sustained flattening of the epidemic curve for months to come, but that even stronger social distancing and/or other public health interventions (like testing and contact tracing) are required to control the epidemic in Georgia. Flattening the curve will help keep medical facilities from being overwhelmed and may be necessary while new interventions are prepared.

Many more cases exist than are measured

Ascertaining the true prevalence of COVID-19 is challenging. Our model, parameterized based on studies of COVID-19 from China and elsewhere, suggests that there may be around an extra five to ten cases for every recorded case, given current testing efforts in Georgia. Large-scale serological testing will be required to determine the prevalence of COVID-19.

Despite these “extra” cases, our models suggest less than 2% of the population of Georgia is likely to have been infected at this time. We estimate that approximately 98% of the population of Georgia remains susceptible and are immunologically naïve. Whilst active cases remain in Georgia, COVID-19 will remain a threat.



COVID-19 is a long-term challenge

We expect Georgia is currently closest to a 50% social distancing strategy – here model simulations suggest that the epidemic will be sustained well after July 4th in this scenario. Sustained social distancing measures can reduce hospitalizations and deaths. Precisely because COVID-19 is a long-term challenge we encourage the scale-up of testing (PCR and serology) and tracing as a means to reduce transmission at the source.

COVID-19 impacts are unevenly distributed

COVID-19 has age-structured severity, and may be transmitted asymptotically. Among many factors, localized age-structure, population sizes, commuting patterns, comorbidities, and medical facility infrastructure all will contribute to heterogeneity in COVID-19 impacts on local communities. Hence, targeted approaches to forecasting and responses will be necessary as part of a coordinated response.