

The COVID-19 pandemic is disrupting the lives of people around the globe. As Government, health care providers and our communities respond to this significant disruption **access to reliable, timely data to quickly understand, measure and react to the rapidly growing threat to the safety and well-being of our communities is critical.**

SAS helps governments manage large data volumes from dozens of different sources and efficiently standardize and perform data quality for enhanced data-driven insights to drive prevention and treatment activities.

In addition to visualizing data, SAS can help state and local COVID TASK FORCES and public health agencies:

- Track COVID-19 case reports
- Track test results and identify presumptive cases earlier
- Integrate state and local data for more efficient healthcare emergency management
- Enhance real time insights into critical needs areas such as hospital capacity
- Ensure labs are operating within capacity
- Identify at-risk patients and communities
- Ensure those individuals who test positive have access to treatment.

OPPORTUNITY 1: Public Health Dashboard for Public Reporting

Business Challenge	Government leaders and public health officials are struggling to provide timely, relevant information on the local impact of COVID-19 to citizens.
Industry	Government – Governor’s Office, Department of Public Health
SAS Capabilities	SAS can create public-facing dashboards that provide timely and relevant data on the local impact of COVID-19 to a specific state (e.g. where is virus spreading, populations impacted). This public facing report can include numerous different types of data sources and analyses. For instance, SAS stood up a public facing report looking at the cumulative total and incidence rate of confirmed cases, by geography, in the State of New York.
Data Needed	<ul style="list-style-type: none"> • Registry of Identified Cases • Lab Reporting Data • Demographics • Geo-spatial/location data (e.g. county or zip code) • No PII/PHI required

Opportunity 2: Early Warning Dashboard for Internal Decision Making

Business Challenge	Government leaders and public health officials are struggling to efficiently leverage data from disparate sources to assist and guide in decision-making related to identifying at-risk populations in order to engage in data-driven resource planning/allocation and future community mitigation decisions.
Industry	Government – Department of Public Health
SAS Capabilities	SAS can create internal dashboards that provide timely and relevant data to identify patterns and spot emerging trends. With the help of data and analytics SAS can help a state: <ul style="list-style-type: none"> • Understand today’s virus migration and who is impacted • Identify at-risk populations by grouping individuals by chronic condition and associated comorbidities • Hotspot patient case counts and at-risk population by geography to ensure health care system capacity across the continuum and support strategic resource allocation planning (e.g. which hospitals should receive approval to increase acute bed capacity)

	<ul style="list-style-type: none"> Identify location of most susceptible populations. For instance, we can identify residents in congregate settings like Skilled Nursing Facilities, or those with risk factors associated with higher mortality (e.g. heart disease, lung disease, etc.)
Data	<ul style="list-style-type: none"> Registry of Identified Cases Lab Reporting Data Hospital data (example – ADT data) Claims Provider enrollment and licensure data Geo-spatial/location data May include PII/PHI

Opportunity 3: Actively monitor access to treatment

Business Challenge	The U.S. health care system lacks the capacity to adequately meet the growing demand from COVID-19 cases.
Industry	Government – Department of Public Health, Health Regulation Agencies
SAS Capabilities	<p>SAS can provide both descriptive and predictive modeling (simulation) to help stakeholders actively monitor access to care issues.</p> <p>Immediate— Descriptive</p> <ul style="list-style-type: none"> Monitor Bed Capacity: Geomap hospital locations based on provider enrollment and licensure information to ensure adequate bed capacity within specific communities. Monitor Policy Changes: Monitor changes in number of new licensed acute beds as hospitals submit waiver requests Ensure Provider Access: Geomap licensed providers against total population and number of confirmed cases to assess network adequacy Monitor Access to Testing: Geomap number of testing locations <p>Long Term Simulation for Resource Maximization</p> <ul style="list-style-type: none"> SAS provides the ability to conduct simulations of discrete events within a hospital setting (e.g. # of beds available, acuity of patient population) to prepare for peak surge capacity.
Data	<ul style="list-style-type: none"> Hospital Capacity Data (from Regulatory agencies) Real-time capacity (would need enable a data collection capability) Provider enrollment and licensure data Authorized testing facilities Registry of identified cases Real-time clinical data (if available) Geo-spatial/location data

OPPORTUNITY 4: Identify At-Risk Facilities

Business Challenge	To get ahead of the public health crisis, government officials need timely insight into potential care settings that could contribute to the spread of the virus. Skilled nursing facilities, especially those with histories of citations for infection prevention and control processes, are at risk. Identifying these facilities for proactive intervention and outreach is critical to curbing COVID-19 in licensed residential facilities, such as skilled nursing facilities.
Industry	Government – Department of Public Health, Health Regulatory Agencies

SAS Capabilities	SAS text analytics can assist in identifying nursing homes with histories of poor infection control specific to respiratory disease. Results can be mapped back to specific communities with active coronavirus cases for closer review and mitigation strategies. This data is available for analysis today.
Data	<ul style="list-style-type: none"> • Facility and licensure data • Registry of Identified Cases • Lab Reporting Data • Geo-spatial/location data

OPPORTUNITY 5: Contact Traceability

Business Challenge	Public health officials are struggling with contact traceability – identifying all people and places who have come in contact with a person with a confirmed case of COVID-19. At present, there are no data standards for collecting traceability information. Contact traceability data is contained in multiple, disparate sources (e.g. case reports, emails). As a result, traceability is manual and time consuming, impacting the ability of public health officials to slow the spread of coronavirus.
Industry	Government – Governor’s Office, Department of Public Health
SAS Capabilities	<ul style="list-style-type: none"> • SAS can create a standardized form to streamline contact traceability capture processes. This data would then be available for timely analysis to identify high level trends (e.g. common restaurant visited on March 16 across multiple interviewees). • SAS can ingest traceability data from all electronic sources, perform entity resolution, and create link analysis diagrams to assist public health officials (e.g. public health, enrollment, school and university rosters to enrich traceability analysis). • SAS can forecast cluster outbreaks and likely hot-spots – mitigating the chances of widespread outbreak.
Data	<ul style="list-style-type: none"> • Registry of Identified Cases • Contact traceability data (as collected) • Geo-spatial/location data • Other necessary information to help identify potential exposure • Likely include PII/PHI

Opportunity 6: Measure Long-Term Impact of Community Mitigation Strategies & Policies Aimed at Slowing the Spread

Business Challenge	Government leaders are making difficult decisions to control the spread of the virus, including many decisions that are impacting citizens’ daily lives. Governments do not know how long many of these decisions (e.g. school closings, mass quarantine) will last, but governments want to ensure the decisions are rooted in reliable, timely data.
Industry	Government – Governor’s Office, Department of Education, Department of Health, Division of Medicaid
SAS Capabilities	SAS can model and geocode policy level efforts to reduce the spread of the virus. By quantifying and analyzing these efforts, governments can use data-driven insights to assess the impact of policies and determine what additional strategies and policies are needed.
Data	<ul style="list-style-type: none"> • Registry of Identified Cases • Contact Traceability data (as collected) • Geo-spatial/location data • School closure data • Other data sources based on desired policy decisions to model