

A COVID-19 situational awareness dashboard from SAS allowed global health care and life sciences organizations to reduce the impact of the pandemic

SD11 – PHUSE EU Connect 2020.

Mark Lambrecht, Stijn Rogiers

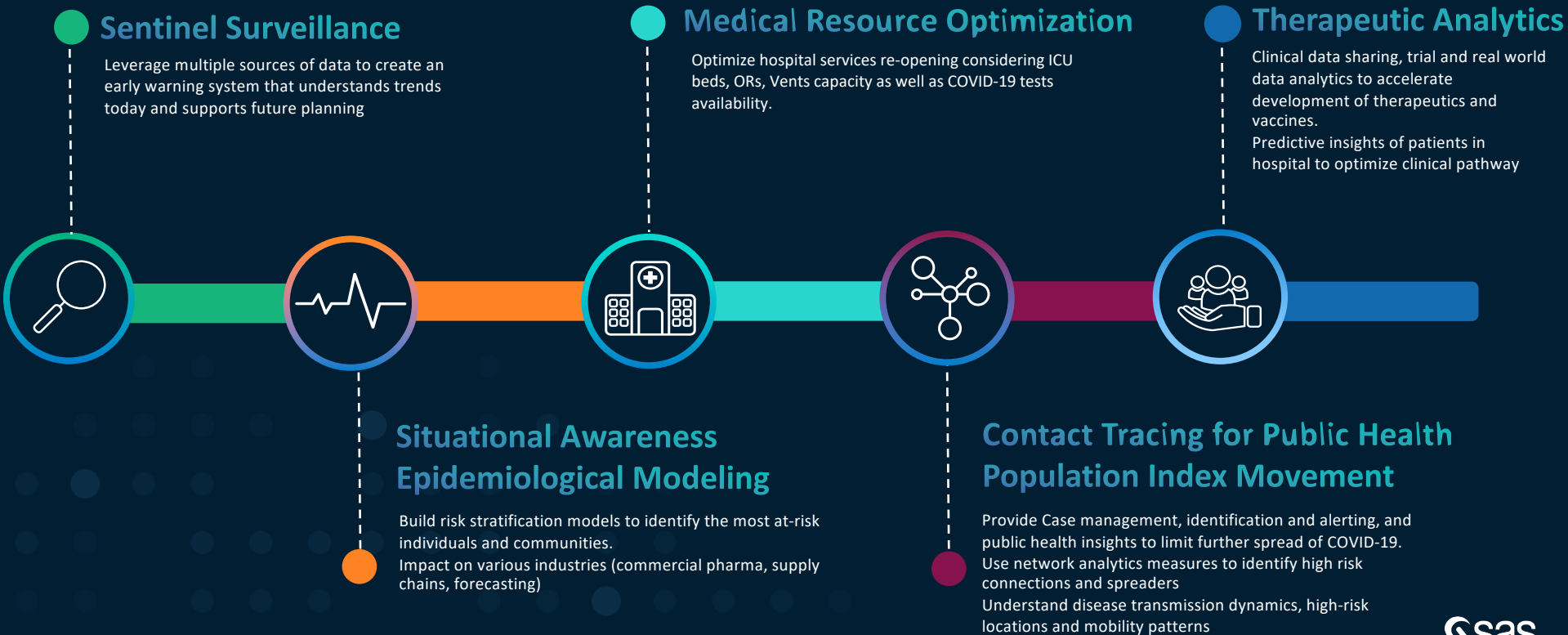
Global Health and Life Sciences Practice at SAS

Software Demonstrations Stream.



Outbreak Analytics

Provide comprehensive approach to mitigate the impact of the pandemic



Coronavirus dashboard – March 10th

Using data visualization to track the coronavirus outbreak

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By [Mark Lambrecht](#) on [SAS Voices](#) | March 10, 2020

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In the early days and weeks of any widespread global health concern, particularly in a fast-moving outbreak like the coronavirus, there are many unknowns. Data visualization can be a good starting point to understand trends and piece data points together into a meaningful story. The ability to visualize the spread of the virus can help raise awareness, understand its impact – and ultimately assist in prevention efforts.

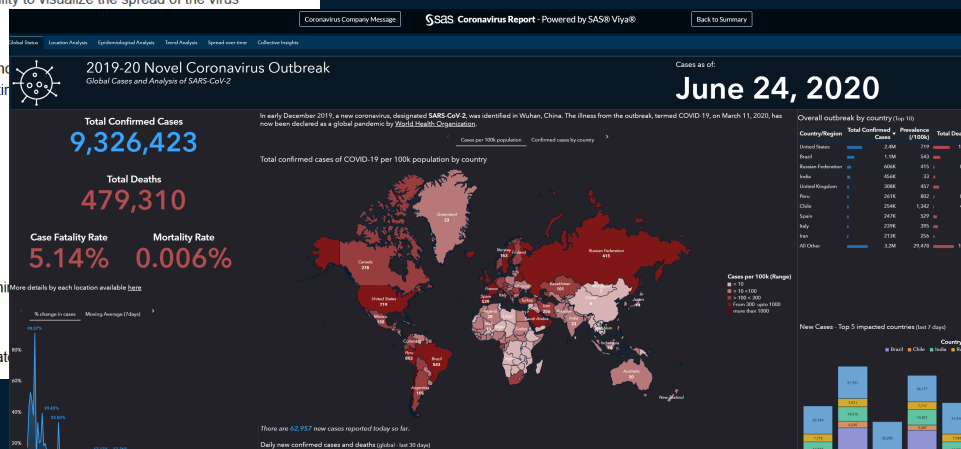
On December 31, 2019, the World Health Organization's China Country Office was informed of cases of pneumonia with unknown cause in Hubei Province of China. Since its initial reporting, the new coronavirus (SARS-CoV-2) has spread in a global outbreak, infecting people in many countries and causing the COVID-19 acute respiratory disease.

SAS has created a report that depicts the status, location, spread and trend analysis of the coronavirus.

[EXPLORE THE CORONAVIRUS DASHBOARD](#)

The underlying data is updated daily, so check back regularly to see how it's progressing and to view the worldwide spread and trend analysis report to:

- Find out the number of new coronavirus cases within the last 10 days and see how the virus' infection rates, recovery rates



Vulnerable populations

Senior Population | Population with Underlying Conditions



COVID-19 Analysis - Vulnerable Populations

Explore the data to learn more about vulnerabilities of people in your community. Double-click or tap a state to drill into county level data.



2019 Senior Population



Highest Senior Population (Top 10)

State	2019 Senior Population (millions)
California	5.74
Illinois	
Arizona	
Texas	
California	
California	
Nevada	
Florida	
Maryland	
Pennsylvania	
Kentucky	
Alabama	
Colorado	
Ohio	0.10

County



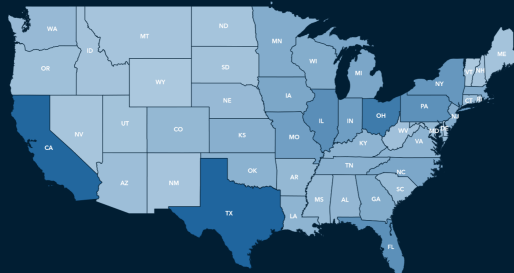
2019 Senior Population

County	2019 Senior Population
Los Angeles	1.4M
Cook	784K
Maricopa	686K
Harris	527K
Orange	483K
San Diego	477K
Clark	331K
Orange	172K
Montgomery	171K
Montgomery	158K
Jefferson	133K
Jefferson	113K
Jefferson	104K
Montgomery	100K

Medicare Nursing Home Providers

Geo region - Provider State - Provider County 1 By Postal Code

Frequency of Medicare Nursing Home Providers by State



Medicare Nursing Home Providers Detail

Provider State	Provider County	Frequency of Medicare Nursing Home Providers
AL	Jefferson	34
AL	Mobile	18
AL	Madison	12
AL	Montgomery	10
AL	Baldwin	7
AL	Etowah	6
AL	Tuscaloosa	6
AL	Walker	5
AL	Lauderdale	5
AL	Marshall	5
AL	Calhoun	5
AL	St. Clair	4
AL	Franklin	4
AL	Tallapoosa	4
AL	Cullman	4
AL	Morgan	4
AL	Chambers	4
AL	Elmore	4
AL	Russell	3
AL	Colbert	3
AL	Lee	3

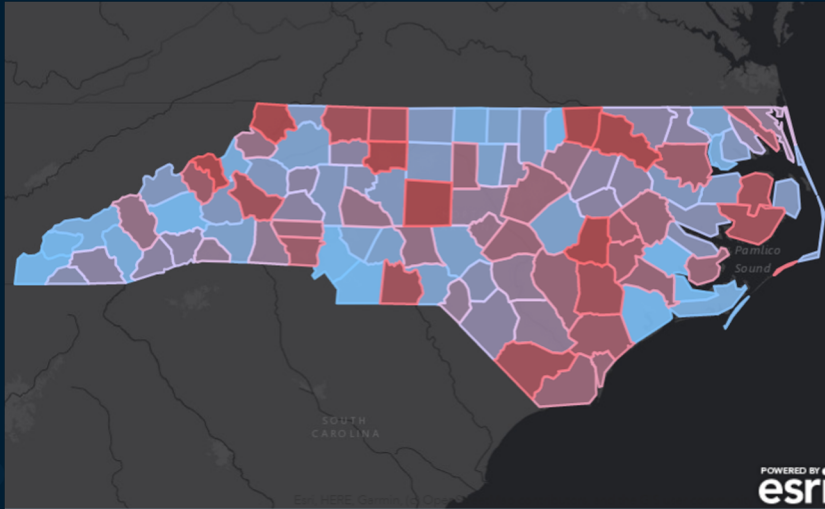
Frequency of Medicare Nursing Home Providers

Frequency of Medicare Nursing Home Providers
34
18
12
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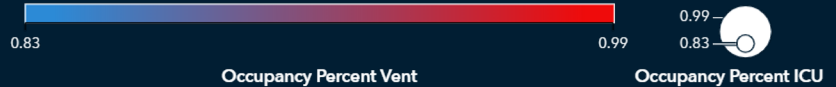
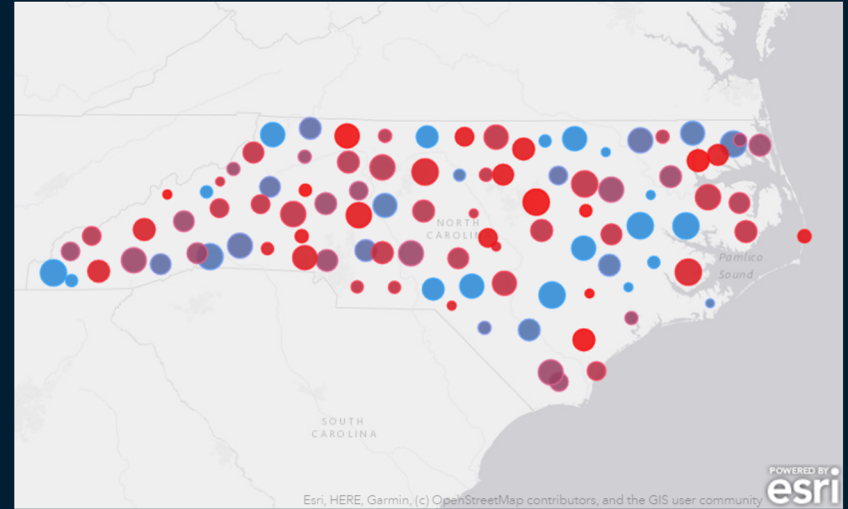
Community Risk

Community risk by County and Hospital occupancy (using CDC Social Vulnerability Index).

County Score Through Model



Hospitals By Occupancy % and Ventilator Supply



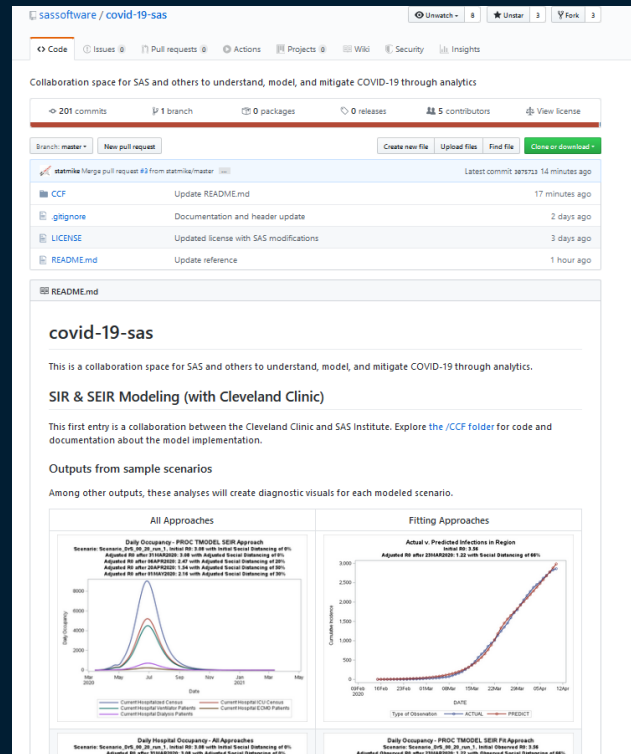
Any geographic representation is for demonstration purposes and does not reflect actual data.

COVID-19 Situational Awareness showcase

Modeling COVID-19 Infections for Preparation and Response

Code Publicly Available <https://github.com/sassoftware/covid-19-sas>

- Joint collaboration between Cleveland Clinic and SAS
- Apply epidemiological models to project COVID-19 infections and peak hospitalization demand, within a region
- Simulate constraints within system based on key attributes (R_0 , social distancing, patient population, etc.)
- Optimize resources to manage anticipated strain on a health system based on need



APRIL 21, 2020 / NEWS RELEASES

Cleveland Clinic and SAS share COVID-19 predictive models to help hospitals plan for current and future needs

Models help forecast bed and ventilator needs and predict impacts on critical supply chains, finance and staffing to optimize hospital preparedness before, during and after regional peaks

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CARY, NC, and CLEVELAND, OHIO –To fight the novel coronavirus pandemic, Cleveland Clinic and SAS have created innovative models that help hospitals forecast patient volume, bed capacity, ventilator availability and more. The models, which are freely [available via GitHub](#), provide timely, reliable information for hospitals and health departments to optimize health care delivery for COVID-19 and other patients and to predict impacts on supply chain, finance and other critical areas.



Unlike some forecasts that focus on a projection based on a single set of assumptions, these analytic models were used to create worst-case, best-case and most-likely scenarios, and can adjust in real time as the situation and

Where are intensive care beds with ventilators available to treat COVID-19 patients?

The Robert Koch Institute and the Fachgesellschaft für Intensivmedizin (DIVI) have set up a high-availability information platform with SAS.

The Robert Koch Institute (RKI) and the Deutsche Interdisziplinäre Vereinigung für Intensiv- und Notfallmedizin (DIVI e.V.) have co-operated to build an information and forecasting platform for intensive care beds with ventilators that provides an overview of existing capacity as well as demand. SAS, one of the leading providers of analytics solutions in the world, has implemented the platform in partnership with the RKI in just a few days.

Using analytics software, the new information system not only shows the current utilization of existing intensive care beds but also allows forecasting of the expected demand for resources. This way, government agencies and hospitals are able to adjust the deployment of resources in advance to meet expected demand. In addition, interactive reporting on the current situation is available to facilitate better planning of healthcare staff and supplies.

The platform is an example of how analytical software can help solve one of the greatest challenges during a pandemic such as SARS-CoV-2: coordinating intensive care based on forecasting so that personnel and resources are available exactly where and – most importantly – when they are needed.

"SAS has made it a top priority to do our very best to help the world get through this crisis. That's why we've decided, together with the RKI as our partner and our dedicated employees, to build this platform. SAS possesses experience with healthcare solutions and serves many organizations in the sector," said Annette Green, Vice President DACH at SAS. "The countless similar projects we've initiated in the past are



SAS and Climeddo develop symptom diary for COVID19 contacts

Zürich, (18. Mai 2020)

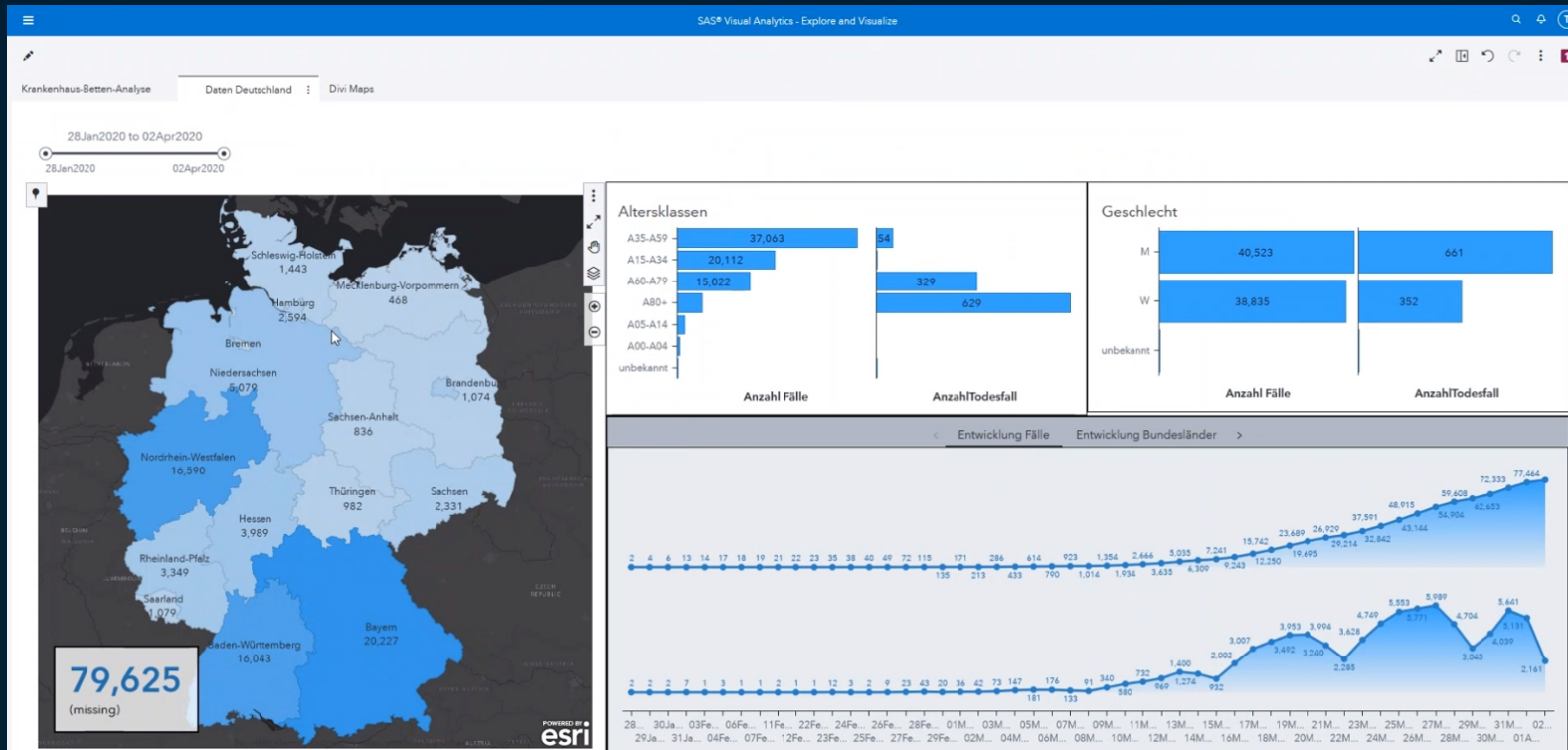
The Federal Ministry of Health of Germany is currently implementing a digital diary with the assistance of SAS and Munich-based software maker [Climeddo Health](#). The new internet platform has been designed to support local government health departments as well as citizens who are in quarantine.

With the help of the new internet platform, people in quarantine at home can enter their health status in an online form. Currently, local health departments are calling people twice a day to track their status. Use of the digital symptom diary is voluntary. No personally identifiable data is processed. All processed data is fully anonymized.

The role SAS is filling in the project involves handling the data analytics, providing analytic visualizations of the results, and generating reports. Before this project, SAS has proven its ability to rapidly implement complex, time-critical healthcare projects while maintaining high quality standards.

The first version of the application is currently being prepared for release. Pending review to ensure compliance with guidelines set by the German Federal Office for Information Technology Security (BSI), the platform is expected to be widely available within the next few weeks.

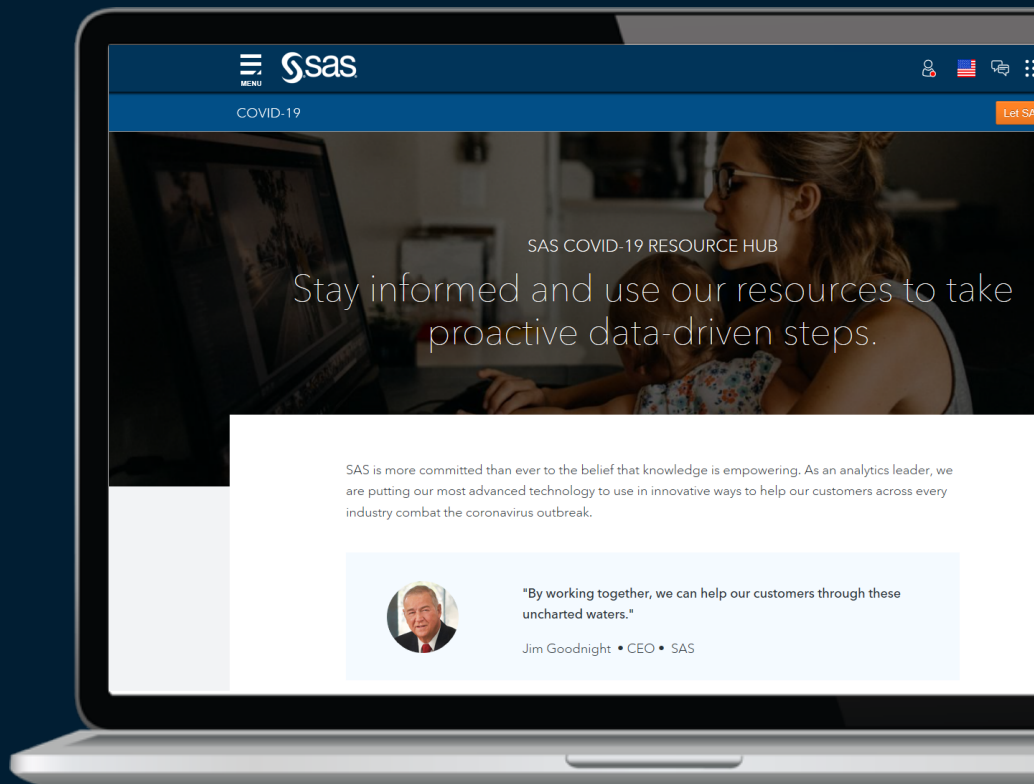
Capacity planning



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COVID-19 Resource Hub on sas.com

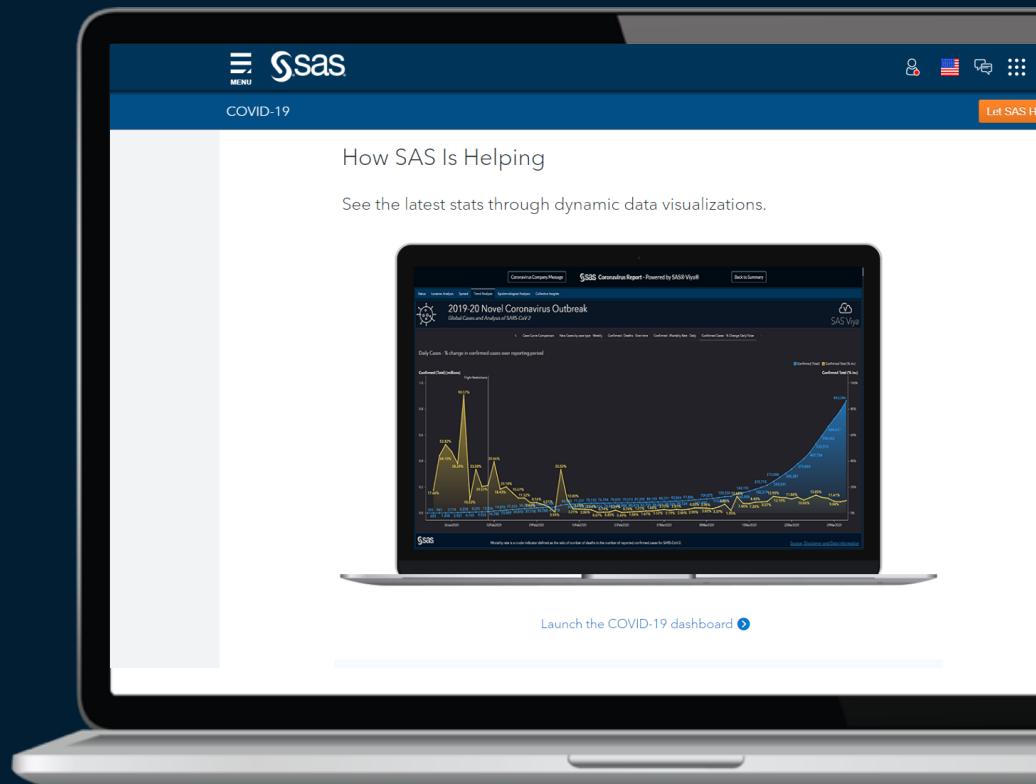
- sas.com/covid19
- Company message
- Content related to COVID-19
- Special Learning & eBooks offers



COVID-19 Resource Hub on sas.com

COVID-19 Report & Dashboard

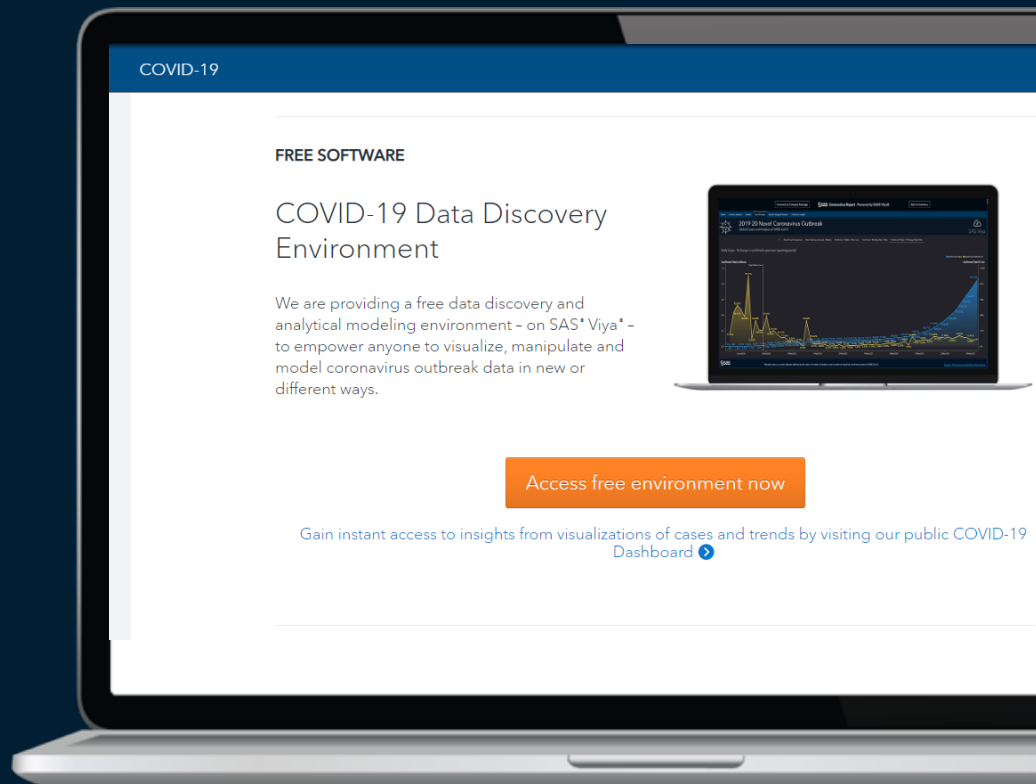
- Report uses SAS® Viya to visualize metrics and trends related to the COVID-19 pandemic.



COVID-19 Resource Hub on sas.com

COVID-19 Data Discovery Environment

- Free data discovery and analytical modeling environment – on SAS® Viya® – to empower anyone to visualize, manipulate and model coronavirus outbreak data in new or different ways.



Thank you

More information ?

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