

# Optimize medical resources for rapid and coordinated response



Provide reliable, timely data for preparedness and resource planning



Understand hospital capacity and critical care beds



Optimize equipment and supply inventories



Support and manage personnel resources

## The Issue

Life-threatening epidemics create extraordinary challenges for governments, health care systems and other sectors such as ensuring that adequate, quality medical resources are available to protect public health. Coronavirus is requiring stakeholders to quickly understand, measure and react to the rapidly growing threat to public health and its impact on hospital capacity, supplies of critical medical equipment and personal protective equipment (PPE), and personnel.

The response efforts are made much more complex by the constantly changing dynamics of the pandemic. The response requires a multifaceted approach, including the ability to quickly collect data and integrate data sources, forecast peak demand and identify hot spots where inventory and personnel shortages will affect care and treatment, and take action to prioritize and allocate resources.

## Challenges



**Collect timely data** for key medical resources such as hospital beds and critical care capacity, medical equipment, PPE and staffing. Not having this data hinders the identification of potential resource shortages. SAS® provides data collection support through a flexible, customizable data ingestion and provisioning process.



**Understand trends over time** based on global, regional and local information to predict the spread of infections and associated demands on limited medical resources. Integrating the information collected from the hospitals with data on infections rates and locations, SAS analytics provides up-to-date information about infection trends in comparison with available inventory. This analysis enables government and hospital officials to take action when needed to increase or reallocate hospital capacity and equipment.



**Anticipate medical resource needs** such as hospital capacity, medical equipment and personnel. It can be challenging to optimize, prioritize and allocate resources to meet demand where and when it is most needed. SAS gives you the ability to gather information, continuously monitor demand and supply, and ensure proactive management of scarce resources.

## Our Approach

Organizations need to prepare and respond to critical health situations using advanced analytics and a deep understanding of health care and life sciences. SAS helps by providing:

**Scenario analysis.** Resource planners create multiple business scenarios based on best-case, worst-case and most-likely projections.

**Data integration and management.** SAS facilitates the collection, integration and quality of medical resource capacity, inventory and location from multiple data sources.

**Customizable interactive visualizations.** SAS brings data insights to life with visualization and interactive reports that track and explore emerging indicators, as well as large-scale outbreaks that affect medical resource demand.

**Increased transparency into needs and trends.** Our visualizations and analyses better inform government and organizational leaders, as well as the public, on what's happening within their communities.

**Advanced modeling to support decision making.** SAS helps governments and health care providers model future parameters to predict hospitalization demand, staffing needs and availability, and supply levels to support preparedness efforts.

## The SAS® Difference

SAS analytical products and solutions help health organizations expand their current capabilities to explore medical resource utilization and predict patient numbers, risks and costs. This is critical in a crisis where yesterday's experience does not inform tomorrow's plan.

SAS is uniquely situated to help optimize a response based on our:

- Relevant expertise in epidemiology, workforce analytics and operations optimization.
- Deep experience integrating diverse data from multiple sources.
- Proven and trusted modeling environment.
- Cross-industry experience in supply-chain optimization and inventory management.

As our communities recover and plan for future challenges, having a trusted data analytics partner brings peace of mind and confidence to your decisions. We are ready to put our experience to work for you.

# Optimizing Medical Resources

Key insights on timing, location and volumes of peak demand enable proactive management of capacity, equipment and personnel.



### Hospital Capacity

- Bed availability/utilization
- ICU/critical care availability/utilization



### Equipment

- Personal protective equipment (PPE) – gloves, masks, gowns, etc.
- Medical equipment - bed, ventilators, etc.
- Testing and treatment supplies



### People

- Medical staff – doctors, nurses
- Testing/lab personnel
- Support resources

Learn more at the [SAS COVID-19 Resource Hub](#)

