



COVID-19: An Unprecedented Burden on Healthcare



Case Study:

Life Sciences Company
Leverages Intelligence Engine
to Prioritize Resources to
Markets Ready for Re-Entry

Challenge

A pharma company with therapies for the treatment of rare pulmonary conditions was seeing a significant drop in product sales with no clear line of sight into how COVID was affecting healthcare availability and patient diagnoses/treatment.

Solution

ZS Intelligence Engine helped the client understand the COVID trajectory, service delivery at major hospitals and IDNs, and identify alternative sites performing pulmonary diagnostics and treatments to manage patients, especially in areas where regular sites are at capacity or inaccessible due to COVID.

Results

With ZS Intelligence Engine, the client prioritized resources on markets ready for re-entry, executed and customized their engagement plan to adapt to local conditions and educated their customers on alternative sites for treatment in severely impacted areas.

Through the pandemic, the U.S. healthcare system faces an unprecedented burden:

- + Due to the reduction of elective procedures, the healthcare system has come under stress, financially and in terms of capacity for doctors and staff
- + Many patients are not seeing doctors
- + Public health officials are struggling to manage COVID spread
- + Manufacturers are trying to address new challenges like field team redeployment

As a result, there have been changes in terms of which facilities treat patients, a rise in telehealth and preferences for therapies that are easier to administer. The disruption magnitude, combined with local circumstances, make decision-making and decisive action a challenge.

ZS COVID-19 Intelligence Engine

Identifying COVID-driven local healthcare needs and treatment gaps at scale

ZS Intelligence Engine is a unique capability that provides county level views on the future trajectory of COVID-19, likely impact on local healthcare delivery capacity, how much care is being delivered, and from which facilities.

ZS built the Intelligence Engine to help patients, providers and public health stakeholders manage COVID-driven healthcare challenges by addressing two questions:

1. How has access to healthcare for non-COVID patients changed?
2. What are the treatment gaps?

The Intelligence Engine integrates multiple proprietary algorithms to project COVID-19 locally, and big data sources on the different facilities, their activity level, and what care is being delivered.

Benefits

By combining publicly available data on COVID cases with other data on hospitals, patients and social determinants of health, we help clients anticipate case trajectory and address unique challenges.

1. **Highlight the Nature of Care for COVID and non-COVID Patients Near Real-Time:** Identify healthcare capacity constraints based on the anticipated demand and healthcare supplies, such as hospital beds and ICU beds.

ZS at a Glance

- + Professional services firm that works side by side with companies to help develop and deliver products that drive customer value and company results
- + Leverages deep industry expertise, leading-edge analytics, technology and strategy to create solutions that work in the real world
- + 7,000+ professionals in more than 25 offices worldwide
- + Has partnered with more than 1,200 clients in over 70 countries
- + Over 35 years of experience
- + Passionately committed to helping companies and their customers thrive

- 2. Assess County Level Readiness to Address Local COVID Disease Progression:** Project case volume and new case trajectory out to 14 days so local healthcare markets can anticipate new constraints.
- 3. Identify When and Where Field Teams Can Re-Engage:** Assess markets providing treatment and help manufacturers decide when and where field teams can re-deploy.
- 4. Design and Prototype Solutions to Address Pain Points for Manufacturers:** Provide an agile approach to identify pain points and solutions such as reimbursement support, disease management and consistent care for chronic diseases.

Features



Predictive Insights on COVID Trajectory for U.S. Counties

ZS developed local county level COVID-19 projection models. By leveraging Amazon Web Services (AWS) cloud computing as well as rigorous back-testing and ensembling, ZS continuously improved prediction accuracy over time. The model ensemble can also simulate the effect of different policies on the spread of COVID-19 through agent based and population simulations. This serves as a foundation for understanding local recovery, both from COVID-19 and its secondary impact on social mobility and the economy.

Single Repository & Data Lake Built on AWS

ZS leverages Amazon Elastic Compute Cloud (Amazon EC2) to extract data from more than 15 public and private data sources and ingests into an Amazon EMR cluster for transformations on a daily basis. From Amazon EMR, the respective files land in Amazon Simple Storage Service (Amazon S3) for raw data storage and subsequently are pulled into Amazon Redshift for integration and aggregation of the data model and metrics. The data is then ready for consumption, either by a front-end visualization tool or through an Amazon S3 extraction layer.

**For more information,
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Get Started

Check out the **ZS COVID-19 Intelligence Engine**
and contact ZS at inquiry@zs.com