

# TOGETHER WE SOLVE PANDEMIC CHALLENGES FACING HEALTHCARE PROVIDERS

12 ways to optimize resources and overcome business challenges

For healthcare providers and public health, a pandemic creates unprecedented challenges — from disrupted supply chains and the inability to adequately protect patients and healthcare personnel to a massive shortage of capacity, personnel, drugs, devices, testing kits, and supplies.

Here are a dozen ways **data science and analytics** can help you rapidly address these unforeseen challenges and improve your business, clinical, and patient outcomes.

## STRATEGIC PLANNING AND OPERATIONS

### 1 TRACK PANDEMIC / DISEASE OUTBREAK, DEPLOY SURVEILLANCE, AND ENABLE RAPID RESPONSE

Aggregating, transforming, and reporting on data is mission-critical to deploying a rapid response for containment of a pandemic outbreak.

#### PATH FIGHTS OUTBREAK:

PATH transformed how data was collected and analyzed, empowering front-line health workers to better track, treat, and prevent malaria outbreaks. →

### 2 IDENTIFY ADDITIONAL LOCATIONS TO SUPPORT THE NEED FOR ADDITIONAL HOSPITAL BEDS

Healthcare systems in large metros are lacking treatment capacity to support the surge in patients needing to be admitted and treated.

#### ANALYTICS SOLUTION:

Use geospatial and advanced analytics to determine location and utilization needs.

### 3 LOCATE AND RECRUIT TEMPORARY MEDICAL STAFF

With a massive increase of patients to treat, medical staff can't meet the standard of care required. Recruiting retired and student health professionals can quickly support the increased care demand.

#### ACCURATE FORECASTING TO INCREASE LEVEL OF CARE:

Texas Health Resources leveraged advanced analytics to accurately forecast demand across **200** departments that resulted in reducing patient stay by **22%** and case variance by **50%**. →

## RESOURCE MANAGEMENT

### 4 PROACTIVELY IDENTIFY AT-RISK PATIENTS

Leverage demographic, socio-economic, and EMR data to identify the most vulnerable and at-risk patients for priority care.

#### UHS REDUCES CARE KPIS:

Analyzing patient data to identify the most at-risk patients allowed University Health System to reduce re-admission rates by **2%** and post-acute care costs by **25%**.

### 5 PROTECT CAREGIVERS WITH REMOTE TREATMENT SOLUTIONS

Leverage tele-health to diagnose and treat non-acute conditions remotely in order to lower the risks of infection for vulnerable patients and caregivers.

### 6 PROACTIVELY MANAGE EMPLOYEE HEALTH, SAFETY, AND BURNOUT

Medical teams and staff are at risk for infection as they work to meet the demands for care.

#### ANALYTICS SOLUTION:

Map employee shifts, vitals, and patients under their care to predict those most at risk for infection.



## SUPPLY CHAIN OPERATIONS

### 7 IMPROVE BED UTILIZATION AND PATIENT THROUGHPUT

Increased patient volume requires the flexibility to re-purpose not just beds, but also medical equipment and devices to best treat patients efficiently and effectively.

#### ANALYTICS SOLUTION:

Optimize emergency departments and operating rooms with near-real-time monitoring dashboards.

### 8 ACCURATELY FORECAST DEMAND FOR MEDICAL EQUIPMENT, SUPPLIES, AND MEDICATION NEEDS

Leveraging data from previous epidemics to forecast demand helps healthcare providers solve for unplanned shortages.

#### SCL HEALTH OPTIMIZES SUPPLY CHAIN:

SCL Health automated supply chain processes and reduced invoice discrepancies by **17%**, which allowed funding additional patient care. →

### 9 BALANCE SUPPLY CHAIN DISRUPTION

Healthcare providers need to establish new supply chains to meet the demands of pandemic treatment while still maintaining care for non-pandemic related patients.

## CLINICAL OPERATIONS

### 10 SEGMENT PATIENTS BY RISK TO MANAGE CAPACITY

Healthcare providers are tasked with efficiently treating and discharging lower risk patients to manage capacity constraints.

#### UHS IMPROVES RE-ADMISSION RATES:

University Health System was able to identify over **2,000** days of excessive stay by leveraging predictive analytics to improve re-admission rates and post-acute care costs. →

### 11 MONITOR HOSPITAL INFECTIONS TO IMPROVE OVERALL QUALITY OF CARE

Hospital acquired infections and conditions can create additional complications for vulnerable patients. Leveraging predictive analytics can improve patient monitoring and prevention.

### 12 IMPROVE PATIENT MONITORING TO REDUCE RISK OF RE-ADMISSION

Identify patients most at-risk allowing care coordinators to take post discharge preventative measures to drive superior patient outcomes vs. potential readmission.



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