

# Achieving mission success: Practical AI for clinical operations

Helping healthcare facilities manage resources

## Red Hat solutions for COVID-19 resource management

- Red Hat® Business Optimizer

### Why Red Hat?

**Open platform:** Open source technologies make it faster and less expensive to integrate healthcare data from multiple sources.

**Experience:** Red Hat has worked with healthcare organizations across the United States to modernize their application development processes.

**Commitment to innovation:** Red Hat works directly with the open source community to develop innovative solutions to meet the needs of healthcare workers, today and tomorrow.

### Healthcare's new phase

**Business process modeling notation (BPMN).** Document care pathways and workflows so that they are sharable, discoverable, and computable.

## Managing hospital resources during COVID-19

Resources at hospitals were already in high demand before the COVID-19 pandemic; now, they are battling enormous scheduling constraints as ICUs become overcrowded, cases escalate, and staff shortages increase. Hospitals and point-of-care centers need to be able to manage schedules to maximize resource availability, protect frontline workers, and provide optimal care for patients. To do this, they need technology that provides automated decision-making capabilities so they can focus their efforts on keeping themselves and their patients healthy.

The influx of patients is causing nurses and physicians—no strangers to working long hours in normal times—to work significantly extended shifts and juggle patient duties, creating havoc around schedules. These challenges become exacerbated when healthcare workers themselves become ill and cannot work. And, hospitals are working to be extraordinarily diligent and minimize the chance for cross-contamination. This often means rethinking how they enforce new hospital policies and how staff works across units. Both of these scenarios create new scheduling complexities for hospitals.

### Red Hat's solution: practical AI for clinical operations

Red Hat has developed a means of using applied AI to help hospitals create schedules to optimize resources and patient care.

[Red Hat Business Optimizer](#) planning engine uses applied AI to model resources and constraints and automatically generate recommended solutions to overcome those obstacles.

Organizations feed data points into Red Hat Business Optimizer. The system takes into consideration all defined constraints on the hospital and its staff. For instance, an administrator could input a list of staff members providing care to patients, including their qualifications and schedules. Red Hat Business Optimizer then produces a recommended shift schedule for optimized care for both COVID-19 and non-COVID-19 patients.

Red Hat worked with frontline workers, including respiratory therapists and others working in COVID-19 ICUs, when developing this solution. They made it clear that this solution serves an immediate and critical need for better situational awareness and resource management.

The agility and adaptability of the underlying open source platform in Red Hat Business Optimizer means that its applicability could go beyond its current use. Other use cases could include managing the appropriate distribution and allocation of medical equipment, such as ventilators or membrane oxygenators.



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**Applied AI.** Using AI to help improve the provider and patient experience through processes, decisions, and tasks.

**Predictive decision modeling.**

Models are created and connected to AI-driven decision points to produce intelligent and automated predictive decision modeling scenarios. This results in insightful recommendations, suggestions, and predictions, especially at point-of-care.

**Learn more**

To learn more about how Red Hat Business Optimizer is helping hospitals manage resources and schedules, visit [www.redhat.com/government](http://www.redhat.com/government).



**About Red Hat**

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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