

SIMULATION in HEALTHCARE

INCREASE reliability & availability
IMPROVE safety, service & cost

Simulation can help envision and analyze your system with variability in mind and help you make informed decisions.



Emergency Vehicle Response Planning

Healthcare Supply Chain

Room & Asset Allocation



Disease Spread Analysis

Demand Modeling



Hospital & Lab Patient Flow

Resource Scheduling



Evacuation Study

Hospital Design



Policy Standards & Procedure Testing

Benefits of Simulation

- Identify bottlenecks & improvement opportunities
- Analyze complex systems with many interdependent factors and high levels of variability
- Make rapid decisions by integrating with enterprise systems

PREDICT outcomes



DECIDE actions



IMPROVE operations

Select Customers



University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH



BON SECOURS HEALTH SYSTEM



National Institutes of Health
Turning Discovery Into Health



Northwestern Lake Forest Hospital

Ortho Clinical Diagnostics

PERKINS + WILL



Gwinnett Medical Center
Lawrenceville • Duluth

APPLICATION AREAS

MOSIMTEC has completed numerous projects and continues to advance the application of simulation in the healthcare industry.

Facility Design & Capacity Analysis



Healthcare organizations need to understand how facilities will perform as patient volumes and types change over time. Simulation can be used to understand the required equipment and rooms/beds by department. Simulation has played a key role in determining the appropriate level of ancillary equipment and space for functions like housekeeping, food preparation, registration, and elevator bank design to prevent these non-clinical processes from slowing down the system as a whole or interfering with patient care. Simulation is ideal for testing out the green field hospital design, as well as testing the boundaries of a current facility to understand when and if expansion will be needed.

Equipment Selection



Simulation has been successfully utilized to evaluate the cost optimal equipment for individual client's needs. The cost of disposable products, including consumables and reagents, must be balanced with the cost of labor and capital investment. This balance must be evaluated while ensuring the selected solution meets throughput and turn-around time. Each customer is different, and only a technology like simulation can provide the customized answer required in today's competitive healthcare environment, while still accounting for uncertainty and future changes to demand.

Patient Flow Analysis



Enable teams to develop simulation models for improving exam, critical care and fast track rooms, patient routes and process times, acuity level distinction, and shift change. Study patients in system, room and staff utilization, and turn-around time.

Medical Device Throughput



Modeling device complexity and high variability in health care systems make simulation modeling a perfect fit to understand impact of change. Understand why current algorithms may be sub-optimal & test changes to work sequencing.

Staff Schedule Optimization



Traditional scheduling software tools do not account for variability or complexity of hospital operations. Simulation based scheduling models allow us to explore relationships, model patient throughput, labor utilization and scheduling of labor and assets.

Simulating your healthcare related systems in a virtual environment allows you to develop the necessary insights to make informed decisions.

MOSIMTECTM
predict. decide. improve.

**Call us to setup a webinar
571-766-8050**