ProModel Helps Baystate Save $1.5 Million Annually in New Surgical Center Design

ProModel
Visualize Analyze Optimize VAO

Vertical

Manufacturing | Pharmaceutical | **Healthcare** | Portfolio | Logistics | Financial | Government | Business

Genre

Case Study | **Project Review** | White Paper | Value Proposition

Client

Baystate Hospital

Situation

Baystate was designing a $28 million surgical center and hoped to increase the service level in both their current and new center while reducing costs. The existing facility had experienced an annual 8% growth rate verses the expected rate of 6%, and after five years the volumes were 12% above the forecasted volume. There was also evidence that staff assignments and patient flows were hurting throughput. This resulted in longer stays and a need for expansion.

Solution

The project team modeled the existing process within the hospital using MedModel® from PROMODEL. It was quickly determined that 30% of the time patients spent in the surgical center was simply moving from one place to another. This movement impacted staff transit times as well. The decision was made to improve the process.

A typical surgical center contains a pre-op, first stage, and second stage recovery area. The proposed center utilized the same area for all three areas. This would result in less movement of the patients and allow less staff to cover them; therefore, improving patient satisfaction while reducing costs.

Baystate could not find any hospital that had used a process like this and wanted to test it out in a risk-free environment, and so the model built in MedModel provided the assurance they needed. This model demonstrated that the hospital could reduce staffing by 25% while maintaining the same service level. Additionally, the valueless category of transit (walking) time by staff could be cut from 15% to 2% of their time, and the new process would require fewer beds.

The patient mix was analyzed as well, and the model was used to test a mix of potential services handled at the center. In one scenario, it was determined that one type of service greatly affected the process. When the service was taken away in the model, the process was dramatically improved, and so the decision was made to shift that service to another area of the hospital. The results gave Baystate the ability to determine appropriate staffing for when the building was opened and to verify that it had enough capacity to handle the expected increases.

Results

The results allowed Baystate designers to fully understand staffing issues. It became clear that when they moved to the new building less staffing would be required. The new center would be able to handle the same volume with 27% less staffing, a savings of $1.5 million annually. Customer service was improved in both centers and the new staffing levels supported a 12% volume increase over the next five years.