

# Allscripts Capacity Planning

## Predictive Analytics for Operational Efficiency

Shifts in the healthcare landscape are increasing the demand on hospitals' finite resources. Spreadsheet-based planning tools are unable to account for unpredictable arrival patterns of patients and variability in length of stay. This results in inaccurate staffing forecasts, which lead to overtime and suboptimal patient-to-nurse staffing ratios.

Allscripts Capacity Planning allows nurse leaders to reduce overtime and stabilize nurse-to-patient staff levels through the use of forecasting tools. Its cloud-based software uses discrete event simulation to help hospitals optimize inpatient beds and staffing for any unscheduled patient demand streams.

Allscripts Capacity Planning can help reduce bottlenecks while improving wait times, clinical outcomes and patient satisfaction.

Allscripts Capacity Planning is part of the Allscripts Predictive Analytics suite, powered by Hospital IQ's cloud-based predictive analytics platform. Hospital IQ's data-driven solutions empower hospital leaders to optimize efficiency by systematically aligning resources – such as staff, operating rooms and inpatient beds – with actual and predicted patient flow. Other modules include Staff Planning, Surgical Planning, Census Forecasting and Elective Smoothing.

### SEE OPPORTUNITIES BASED ON EXISTING DATA.

Allscripts Capacity Planning quickly consumes traditional ADT and other data from the Allscripts EHR and other systems to bring data to life in heat maps, flow diagrams and other compelling visualizations. These charts shine a light on key areas of opportunity, such as bottlenecking patient movements. No manual data entry is required.

### MONITOR AND IMPROVE QUALITY OF CARE.

Allscripts Capacity Planning continuously monitors how operational efficiencies affect patient quality indicators—including length of stay and readmissions within 30 days—using statistical methods such as the t-test and Fisher's exact test. The results are presented by level of care in an easy-to-read table with drilldowns into patient details for context.

### DESIGN "WHAT IF" SCENARIOS

Harnessing the power of the Allscripts Capacity Planning simulation engine is as simple as literally pulling levers. Weekly demand, average length of stay, boarding time, and bed turnover time can all be shaped by dragging levers to the left or right. Allscripts Capacity Planning takes care of the rest—ensuring accurate predictions by accounting for existing patient demand, historical movement patterns, length of stay variability and many other factors.

### SEE THE CLINICAL AND FINANCIAL IMPACTS OF POTENTIAL CHANGES

For each scenario and in a matter of seconds, Allscripts Capacity Planning runs discrete event simulation many times to calculate detailed results. With interactive tables and

## Predictive Analytics Modules

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- Surgical Planning
- Staff Planning
- Capacity Planning
- Census Forecasting
- Elective Smoothing

## Overview

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- Analyzes historical demand patterns and their impact across the hospital  
Identifies opportunities to reduce expenses by adding lower-cost beds to reduce boarding in higher-cost care centers such as PACU and ED
- Uses queuing science and simulation models to accurately predict the optimal number of staffed beds for each shift based on clinical policies (wait times, level of care designations and locations, etc.)
- Calculates ROIs quantifying the impact of volume and capacity changes
- Tracks implementation with "actual vs. expected" reporting along key metrics

# Allscripts Capacity Planning

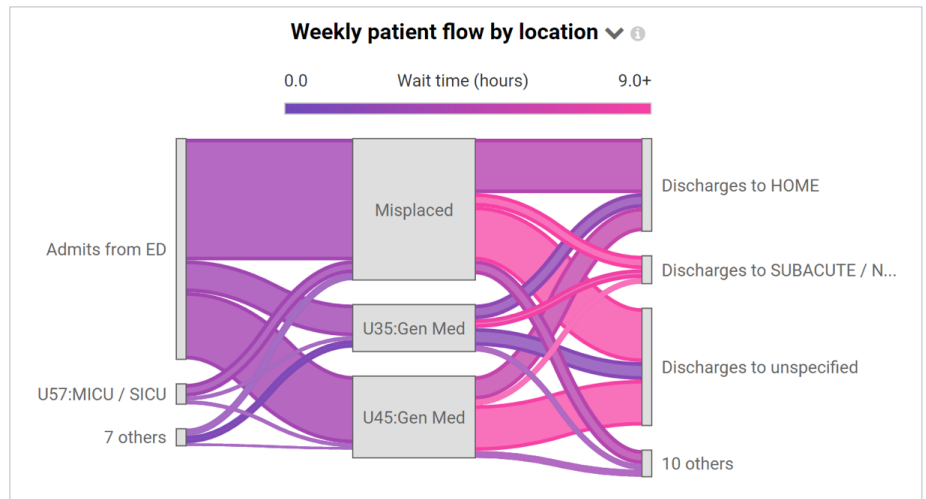
charts, scenarios can easily be compared side-by-side for decision makers to assess clinical and financial tradeoffs including staffing levels, wait times and occupancy.

## TRACK PERFORMANCE TO PLAN

Allscripts Capacity Planning provides a full closed-loop system to facilitate continuous improvement. Upon implementation, changes are tracked and visualized in weekly progress reports. For full context, historical, actual and expected performance data appear on the same charts. Staff can easily monitor key metrics against targets and quickly understand causes associated with any deviations from expected performance, while reaping the benefits of reduced variability at their own pace.

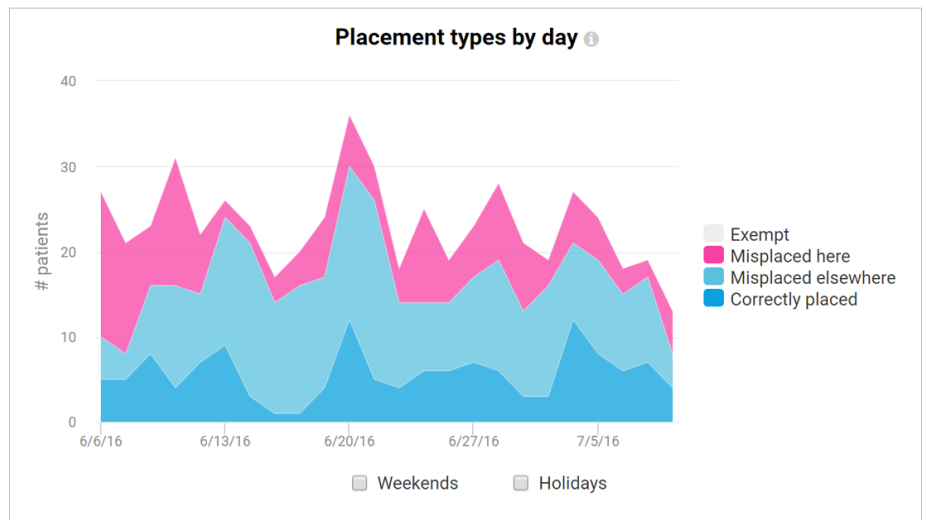
### Capacity Planning Flow

The patient flow sankey diagram shows patient flow through a level of care in a hospital



### Capacity Planning Placements

The placement types graph illustrates an understanding of true demand and planning to capacity to meet demand and avoid misplacements



### Add capacity planning scenario ✕

**Scenario name:**

**Notes:**

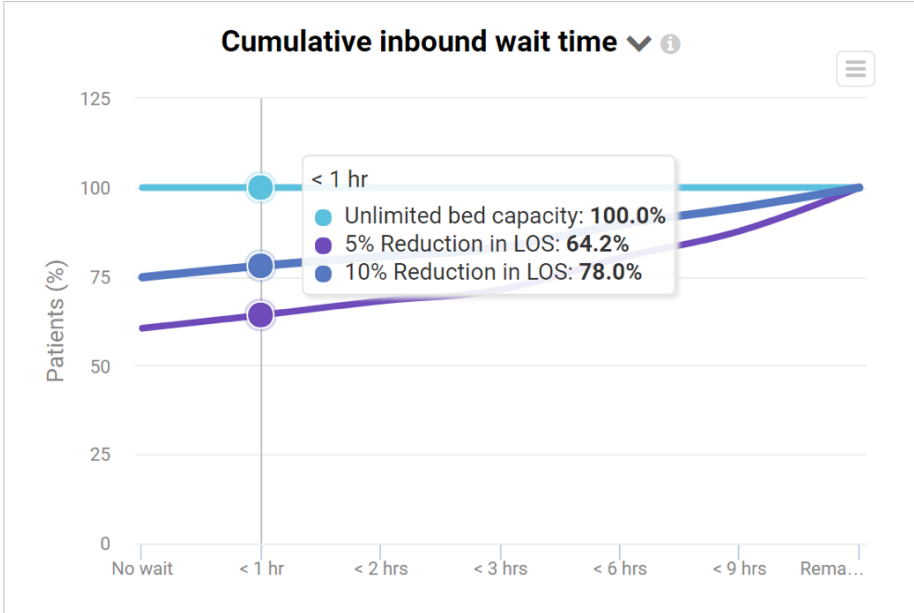
**Bed capacity:**  beds  Unlimited beds  Specify range

**Forecasts:** [reset](#)

- Weekly demand:**  110 cases/week -5% change
- Avg. length of stay:**  3.1 days
- Boarding time:**  4.4 hours
- Bed turnover time:**  1.0 hours

**Capacity Planning Levers**

Slider controls make it easy to evaluate what-if scenarios and quickly see the impact of the potential changes



**Capacity Planning Comparisons**

Forecasted wait times, such as this one, make strategic analysis of capacity planning scenarios a straightforward exercise

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## Capacity Planning Reports

Actual vs. expected reports track progress towards operationalized capacity planning scenarios