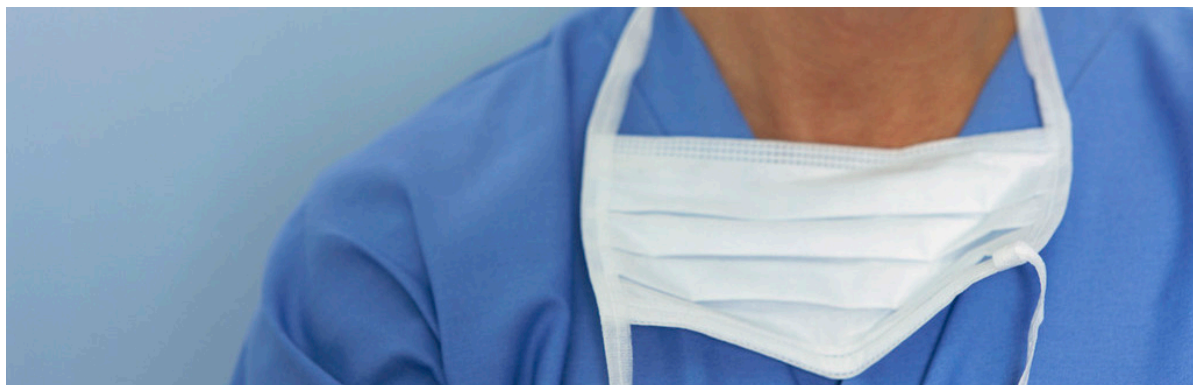


Advancing Clinic Workflow & Operations

Eva K. Lee, Principal Investigator



PROJECT DESCRIPTION: The focus of this work is advancing patient care by investigating optimal care delivery models for health systems through 1) standardizing, consolidating services of tertiary services within the organization, and 2) optimizing resources for the overall patient care. Some of the goals involve 1) Decrease practice variability across the organization, 2) Increase quality and timeliness of care, 3) Maximize financial and systems performance, and 4) Empower leaders with improved decision making. The focus area for this period is on advancing clinic workflow and operations, especially in the ED and in the OR. The studies are motivated by:

- Overcrowding of the Emergency Department, presence of patients with non-urgent medical conditions (~40%), long wait times, decreased quality of care and patient satisfaction;
- Long delay in OR, misalignment of operations versus physician schedules, non-optimal resource allocation, inefficient turnover process.

PROGRESS TO DATE: Some active projects that we are working on: modeling and optimizing ED clinical and patient flow, dynamic OR scheduling, ICU resource allocation and optimal patient care.

POTENTIAL MEMBER COMPANY BENEFITS: Large-scale systems and predictive analysis can result in transformative changes that can

- Improve patient flow in ED

- Reduce/re-direct non-urgent patients
- Improve quality of care and patient satisfaction
- Optimize resource allocation
- Improve schedule and workflow efficiency

MILESTONES ACHIEVED TO DATE:

- Performed process mapping of the ED and OR patient and service workflow
- Generated extensive time-motion study data for patient arrival and service processes
- Developed computerized system simulation-decision model to reflect the entire ED and OR work and patient flow
- Identified system bottlenecks
- Performed systems optimization and identified potential intervention and process transformation for improved clinic workflow and quality of care
- Developed smart dynamic practical scheduling schema for use in hospitals