

Abstract 14

**Determination of the Causes of Long Patient Wait Times
in a Preoperative Evaluation Clinic**

Jean Kwo, MD¹; Devon Price, BS²; Mary Elizabeth Ellbeg, RN¹; and Retsef Levi, PhD²

¹Massachusetts General Hospital, Boston, MA, and ²Sloan School of Management, Massachusetts
Institute of Technology, Cambridge, MA

Introduction: Preoperative evaluation clinics face many of the same challenges other outpatient clinics face. Long patient wait times are no longer acceptable in a climate where patient convenience and fiscal constraints are priorities. Commonly cited reasons for long wait times include inadequate personnel and space, large patient load and short appointment times, and patient acuity. However, the real causes of long patient wait times are not always apparent. We undertook a systematic, quantitative study of our clinic workflow to uncover patient and provider characteristics that drive long patient appointment times in our clinic. We also developed a simulation tool to predict the performance of the system with various process changes.

Methods: The preadmission testing area (PATA) is an outpatient appointment-based clinic staffed by anesthesiologists (MDs), nurse practitioners (NPs), registered nurses (RNs), and support staff (PCAs). After vital signs are taken, patients are interviewed by either an MD or NP and an RN. They then have laboratory studies drawn and are discharged from the clinic. For a 2-week period, we performed a time-motion study tracking face-to-face patient time at each of these stations as well as total patient time in the clinic. In addition, we tracked the time each practitioner spent in patient care–related activities away from the patient (eg, looking up patient data, charting, etc.). Patient data such as age, American Society of Anesthesiologists physical status classification, number of medications, and whether they receive care within or outside our health care system were also collected.

Results: In a 2-week period, we collected data on 555 patients and 38 health care providers. On average, patients spent 82 minutes face to face with a provider and 88 minutes waiting. Provider utilization ranged from 45% to 79% and room utilization was 48%, demonstrating that ours was not a highly utilized system. The key driver for patient wait time was found to be provider variability. Simulation showed that reducing redundant, nonvalue-added work; improving flow of critical communication; and decreasing provider variability through the implementation of guidelines and best practices can decrease patient wait times by 85%.

Conclusion: Undertaking a systematic, quantitative approach to analyzing patient flow through a clinic can uncover the drivers of long patient wait times. The effect of different interventions on patient wait times can be demonstrated by the use of a simulation tool before implementation of the intervention.