

9. 2:40pm Friday, November 14, 2008

### **APPLICATION OF LEAN METHODS IMPROVES SURGICAL CLINIC EXPERIENCE**

Waldhausen JHT, Libby A, Sawin RS

Children's Hospital & Regional Medical Center, Department of Surgery, Seattle, WA

**Background:** Providing a consistent, timely, efficient, and high quality office visit in the setting of a high volume general surgery clinic is challenging in a teaching hospital. Challenges include high variability in: the number of patients scheduled, the types of patients and lesions seen, and the patterns of behavior among care providers, many of whom are rotating residents and students. In order to reduce this variability and to improve the experience of patients and their families, we utilized multiple "Lean Methods" as described in the Toyota Production System.

**Methods:** Baseline data were collected including: the number of patients seen, the amount of time that patients were in exam rooms, the amount of time each member of the health care team spent in face-to-face contact with the patient and family, and patient satisfaction as measured by the NRC Picker survey. Semi-quantitative data was also collected using the 5S methodology that measures the degree of work-space organization. Two Rapid Process Improvement Workshops (RPIW) were conducted to apply Lean Methods. The 5S techniques were applied to standardize the exam rooms and office work-space. The principles of Work Balance and Standard Work were also applied. The same data were collected at 30 and 60 days and compared to the pre-workshop. NRC Picker data were followed for 5 months after the workshop.

**Results:** Median Pre-RPIW total exam room time was 49 min. Post-RPIW, the times were 33 at 30 days and 41 minutes at 60 days respectively. The percentage of exam room time during which a provider was with the patient increased from 30% Pre-RPIW to 61% at 30 days, and 58% at 60-days. The median number of patients scheduled in a 4-hour clinic increased from 10 to 12. The Post-RPIW NRC Picker Problem Scores improved from 14.8% to 7% post-RPIW.

**Conclusions:** Lean Methods from manufacturing industry can effectively improve clinic efficiency and the patient experience in a teaching hospital-based general surgery clinic.