Implementation of a Quality Improvement Program Improves Wait Time for Patients in a Busy Pediatric Echocardiography Laboratory

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Background: Prolonged wait times for outpatient echocardiograms (echo) for pediatric patients in a busy outpatient cardiology clinic (annual volume 14,000 echo) was a source of patient and provider dissatisfaction in our institution. We sought to measure our baseline performance with regards to echocardiogram wait time (EWT) and implement a quality improvement program to improve EWT.

Methods: In January 2014, a quality improvement (QI) team was formed that comprised of cardiologists (AP, TS), sonographer (AW) and QI mentor (JM). EWT was defined as time in minutes (min) from initiation of echocardiogram order in the electronic medical record to start of the study. Goal EWT was set as ≤ 20 min for 90% patients. EWT was tracked for all patients on pre-selected high volume clinic days (typically 2 mornings/week) for baseline. Flowcharts were created after process observation to identify sources of potential delay. QI methodology such as driver diagrams and root cause analyses were utilized to identify interventions. Ongoing sampling was performed to assess the effect of interventions.

Results: Control chart with the effect of interventions on EWT is shown in the Figure. Baseline EWT was 21.5 min (range 1-83min), 62% patients waited ≤ 20 min for echo. There was an increase in EWT along with decreased sampling between August – November 2014 due to shortage in sonographer staffing. With intervention, EWT decreased to 16 min (range 4- 46 min). There is less variability in EWT compared to baseline. Figure 3 shows comparison of EWT between baseline and current (last 3 month data). Percentage of patients with EWT ≤ 20 min improved to 80%. Percentage of patients with EWT ≤ 30 minutes improved from 78% to 93%.

Conclusions: Process observation could be used to identify areas of inefficiency. Systematic implementation of interventions and prospective tracking resulted in quantifiable improvement in EWT in a busy outpatient pediatric echo laboratory.

Figure