

Lab Control Throughput & Flow

The Problem

The first step in getting a patient a Lab result is to prepare the specimen for testing. This includes logging the specimen into the computer, labeling the tube, spinning (centrifuge) the tube, and aliquoting to divide the specimen. Lab Control processes over 6 million specimens per year. Routine Lab results are expected to be delivered within 24 hours. With such high volume and repetitive nature of work, efficiency is key. An unlevelled influx of specimens causes periods of workload congestion and lulls, resulting in a less than optimal use of resources. In addition, the workplace was not designed for flow.

Aim/Goal

- Decrease turnaround time (TAT) from specimen drop-off to time available for testing by Lab Technologists
- Improve teamwork between Lab Control and Technologists
- Improve quality and reduce errors

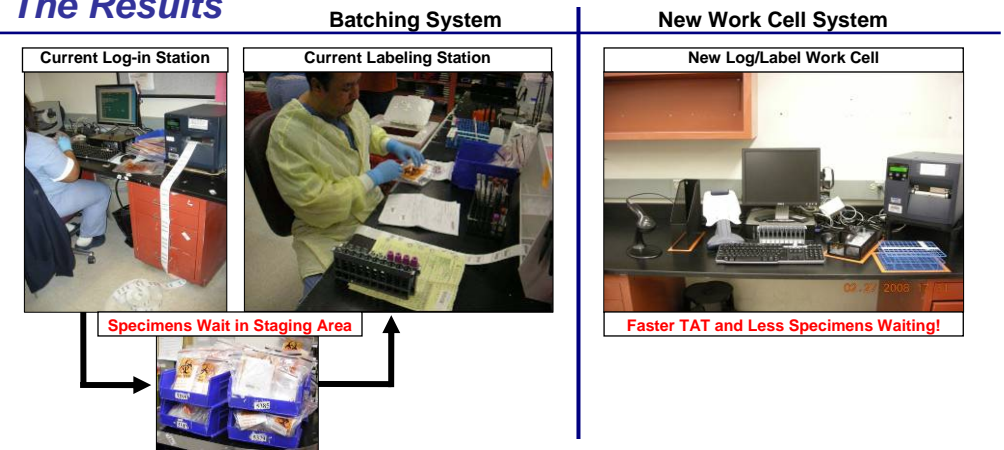
The Team

- Pathology Leadership
- Lab Support Assistants
- Medical Technologists
- Lean Program Team

The Interventions

- Performed a time study to pinpoint bottlenecks
- Played the "Batch Game" with all staff to demonstrate the inefficiencies of batching work
- Used the data and observations collected to create standard work cells that flowed
- The new work cells consisted of one person logging and labeling and another person centrifuging and aliquoting specimens. Thus:
 - Decreasing the time between log-in and time available for testing
 - Eliminating duplicate work
 - Creating a cleaner handoff
 - Reducing piles of specimens throughout Lab Control

The Results



- By labeling specimens as they are logged in (one by one), instead of batching, 1.5 minutes is saved per requisition, which translates into 40 hours per day.

Metrics (for Routine Specimens only)	Baseline (Feb '08)	Target	Results (1 st improvement pass as of Feb '08)	% Change
TAT (Turnaround time from drop-off to Lab to available for testing)	214 min	40 min	147 min	-31%
Specimen Processing Time (from log-in to available for testing)	102 min	20 min	35 min	-66%
WIP (# of specimens in Lab Control)	1247	374	190	-85%

Lessons Learned

- Many touches and batching increased specimen turnaround time and introduced errors
- Small incremental improvement resulted in 40 hours gained each day to do productive work
- By decreasing piles of specimens it became possible to locate specimens when additions were requested
- Standardization was necessary for entire system efficiency

Next Steps/What Should Happen Next:

- Address leveling work for the routine specimen process in a Rapid Improvement Event (3/24/08-3/28/08)
- Focus on specimen drop-offs by transport and couriers, staffing schedules, and leveled work for each role
- Monitor newly created work cell using data and address any problems or staff feedback

