Step 2 – Map Current Process

Demonstration – Creatinine TAT

This section provides a demonstration of Step 2 – Map Current Process.

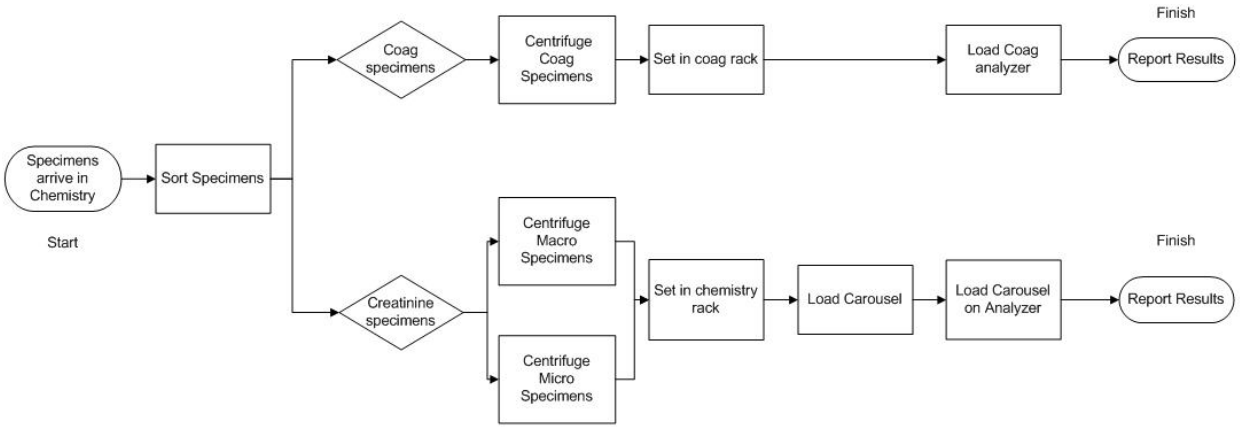
Interviews

Individuals in the following roles were asked, "How do you do your work?"

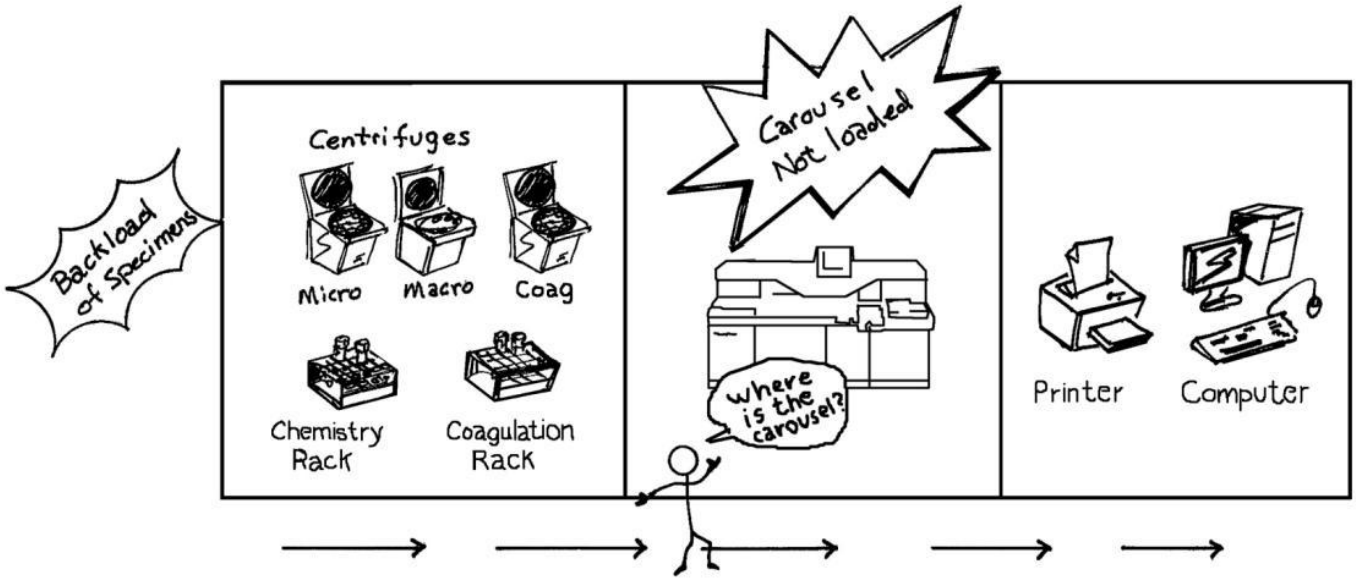
	**Chemistry Tech #1**	When I see a load of specimens come in, as soon as I can I'll put them in the centrifuges to spin. During lunchtime, I often have to run the coag tests, too.
	**Chemistry Tech #2**	Usually someone has started loading the carousel with creatinine specimens, so as soon as any other specimens have stopped spinning, I finish loading the carousel and put it on the analyzer. The analyzer is set up for auto verification, so only those results that fall outside of the rules require further attention from us.
	**Helper**	If I'm in chemistry when specimens come in from dialysis, I sort the creatinine samples from the coagulation samples. The creatinine specimens are either micro samples or macro samples. I then centrifuge them in one of three centrifuges: coag, micro, or macro. After they have been centrifuged, I set them in racks to be tested: one for creatinines and one for coags. If a carousel is nearby, I will load it so that one of the chemistry techs can put it on the analyzer.
	**Hematology Supervisor**	The coag centrifuge is located in the chemistry department. Coag specimens are sorted and tested by some of the chemistry techs.

Review of Documents and Flowcharting

As a result of the interviews, the team came up with the following flowchart and accompanying diagram of the current work.



Creatinine TAT – Current Process Flow (PDF)



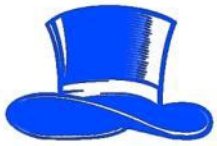
Creatinine TAT – Current Work Layout (PDF)

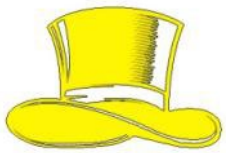
Step 4 – Develop Solution

Demonstration – Creatinine TAT

This section provides a demonstration of Step 4 – Develop Solution.

The team went through another round of brainstorming to develop a solution. They used the Six thinking hats approach, focusing on the Green, Black, and Yellow hats.

Hats	Comments
Blue – goals and objectives 	• (Facilitator) We will develop solutions using the other three hats.
Green – ideas and possibilities 	• Shorten the spin time on the macro specimens. • Assign the coagulation testing exclusively to the hematology department. • Separate out STAT samples; don't batch them. • Get another macro centrifuge. • Eliminate coagulation processing. • Put the carousels in a defined location so we know where they are. • Define roles for processing and testing. • Prioritize all dialysis specimens. • Always check for stat specimens waiting to be processed. • Check a pending report for any missed specimens. • Create a lunchtime schedule. • Assign heme techs to do creatinine testing. • Test plasma to eliminate the clotting phase.
Black – barriers and hazards 	• The macro centrifuge has not been validated for a shorter spin time. • It will take too much time to validate the macro centrifuge for a shorter spin time. • It would cost too much money for the vendor to perform the validation studies. • No matter what we do, lunchtime is always going to be busy. • Hematology will not want to take over coagulation processing and testing. • We would have to train heme techs to do creatinine testing. • By the time we pull up a pending report, the result is already too late. • We would have to perform validation studies to switch to plasma testing. • The validation to switch to plasma would be too much work. We're already too busy.

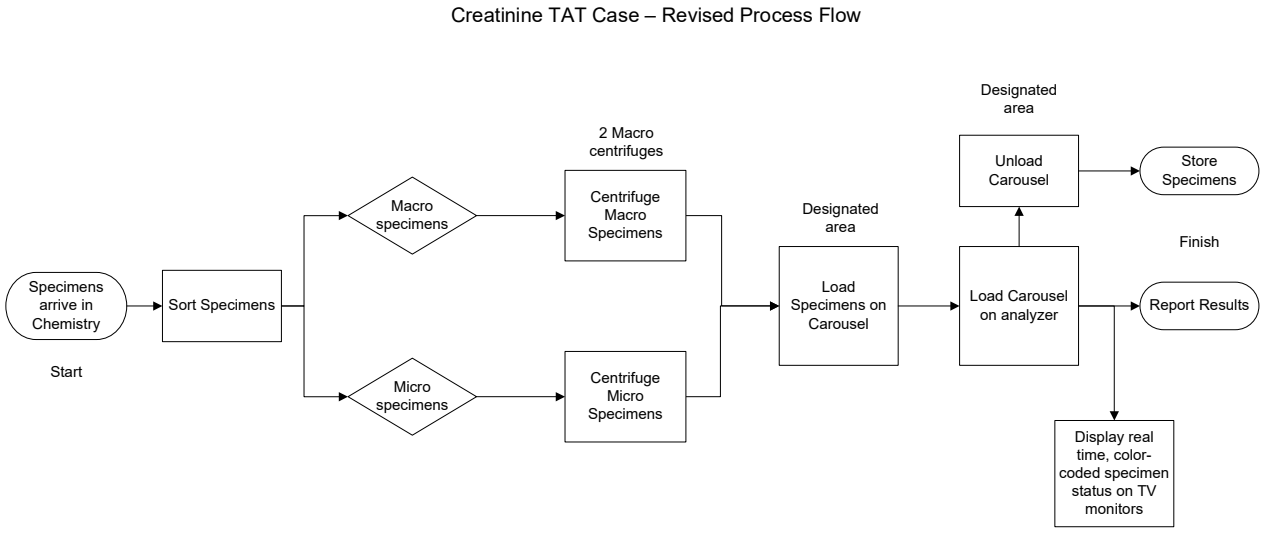
Hats	Comments
Yellow – benefits and pros 	• Clarification of roles always helps. • The manufacturer could validate the macro centrifuge. • Additional centrifuge will allow faster processing. • Coagulation testing TATs will be improved if the specimens are not mixed in with chemistry specimens. • Standardization will provide a more efficient process and we will get fewer phone calls. • The gains would be worth the effort to switch to plasma. • Creating a lunchtime schedule would allow for better planning and less stress. • Hematology staff can exclusively test coag specimens during lunch time surge.

Revised Process

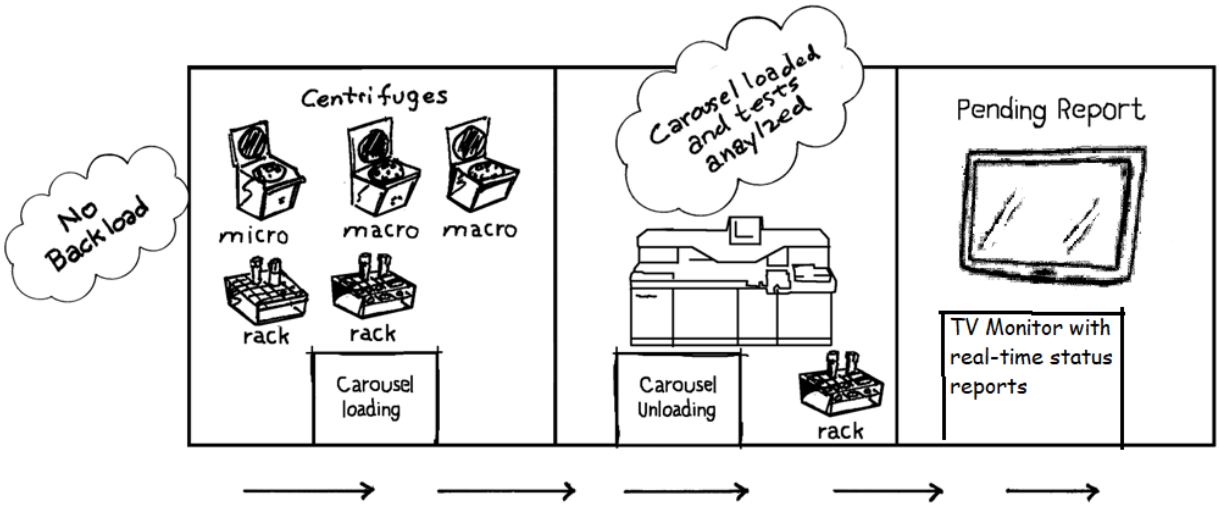
Based on the brainstorming session the root cause analysis team came up the following solutions:

- Tape out loading and unloading locations for carousels on bench.
- Use an additional macro centrifuge.
- Add color coded stickers to STAT cases for easy sorting. Do not batch STAT samples.
- Install TV monitors with case status including pending cases to improve efficiency.
- Remove coagulation processing and testing from chemistry
- Clarify the role of the helper: prioritize chemistry specimen processing and assist with coagulation testing when able.

The team developed the following revised process flow and work layout.



Creatinine TAT – Revised Process Flow (PDF)



Creatinine TAT – Revised Work Layout (PDF)

Interviews

What do you think of these possible solutions? Can you think of any other problems this might create?

Chemistry Tech — I think this process will work well for us!

Hematology supervisor — Since we've improved some of our processes, we should be able to handle all of the coagulation processing and testing as long as we can both use the helper.

Helper — I don't know if this will work. It sounds like more work for me. But if we get less phone calls that will help a lot.

Dialysis Nursing Supervisor — We will need to ensure that staff have the color-coded stickers available for STAT draws we collect and then I will be training my staff.

Cost/Benefit Analysis

- New centrifuge
- TV monitors
- Reduction in TAT
- Satisfied customers
- Improved patient care