3 ways to ensure the right test for the right patient at the right time

I am Jason Majorowicz. I'm the quality management coordinator for Mayo Medical Laboratories. right now. Within Mayo med labs is known internally at Mayo as Mayo Collaborative Services. We're one of eight divisions in our department, and we are focused solely on the preanalytic phases of testing. So getting samples from our clients through our backdoors as fast and as efficiently as we can, getting them processed and routed to the laboratories.

So there's actually a really cool video. You can go out and Google Beyond the Berry Box and you can see all the fun toys I get to play with for automation every day. It's pretty cool. But enough about that. Let's get down to brass tacks.

This is what we're doing today. The right test, the right patient at the right time. This is our bread and butter, right? Feel free to say yes. Thank you. God, this is a light response. All right, but wait for it. It's not as easy as it sounds, is it? Right. This is hard. I don't know why it's so hard, but it's hard. It's really hard. So I've been working on this pre analytic stuff for about three years, four years, kind of working through it. How can we make it easier? And there's been a lot of data published, and just last fall there was a recent article published where it said, in the pre-analytic phase we have about 4% of our errors that impact the patient result occur in the pre analytic phase. This shouldn't surprise anybody. This is not a surprise to me. We validate and verify our test to the hilt, precision, accuracy, reference range, reportable range. If you're doing an LDT or you're modifying it, analytic sensitivity, analytic specificity. Then on top of that, we run a ton of QC. So this number makes sense to me. This number, post analytic phase 22%. Somehow we find ways to mess up after we've done all that great work. And I'll be honest with you, stuff happens. We walk in the labs every day. We know what happens. Jenny talked about event management. You're lying if you say this stuff doesn't happen. 22% in the post analytic not horrible. But we're trying to drive that down. Now, I know this next number, and it resonated with me, but it's like. Anything, you know, you know something, and then when you're read it somewhere else, you're like, that really makes sense. 74% occurs in the pre analytic phase. Does that shock anybody in the room? No, but it's a huge number. I mean, this is 74% of stuff that happens in the sample happens before it even gets to you to test. That's crazy. That's crazy. Think about that.

So I've been spending the last three years kind of cycling through and working on this stuff. PDSA, small tests of change, working on it, driving this number down for our organization. Today I'm going to talk about one side, but there's a really great article that was published by Tony Kerec in the Medical Lab Observer in January that talks about the physiological things that happen with specimen transport-lipemic, icteric. Right now, I think biotin supplements are a big thing that can

impact laboratories. I'm not talking about that. We're talking about the easy stuff today. We're just talking about the information.

Give me what I need to do the test. And it's not like it's a quiz, right? It's not like it's a mystery. We've got lab test catalogs out there that tell people what? What you need to do the test and give you an accurate test result, right? You guys got lab test catalogs, right? Okay. Do your physicians and nurses use them? That's the question I have. And maybe it's a quick win and. You can just say, hey, this is a lab test catalog. Please use it. It tells you everything you need to give us. Right? But there's consequences to not getting this information that impact the final result.

Think about micro. If you send me a specimen source with a sample that I don't have validated, I'm going to cancel the test. And then what's going to happen? You might get that cancellation back. You're going to pick up the phone and you're going to call us and say, no, it's really this source. Now we've got a specimen delay. We're using our time to cancel the test. Your time. Your lab's time. I mean, this is a hidden cost. We talk about cost in the laboratory. I would submit to you that this 74% is a huge hidden cost. Think about how much time your lab spends tracking information down, right?

So if you give me the wrong specimen source on micro, I might set it up on the wrong media. You might not get the test result you're looking for. Moreover, I might not automatically run susceptibilities on it. Right? There's all sorts of things that happen with this stuff.

In genetics, one of the things I see is we're looking for a reason for referral. And the reason we're doing that is if you can give me a reason for referral that makes sense with the tests you ordered, I'll run it. Then we're also doing a little bit of utilization management and saying, if you order this test, but you give me a more specific reason for referral, my genetic counselors are going to call you and they're going to say, “hey we have this other test that is cheaper” and it's going to give you better result and you are going to be able to impact that patient more meaningful. So, reason for referral, what do you think the other thing I am looking for? It’s up here somewhere with my genetics team. You want to have the doctor’s phone number and that way we can call you and my physicians can call your physicians and your laboratory people and have a meaningful conversation about what the reason for referral is and what the test results actually mean. In anatomic pathology my organization predominantly second read consult for the work that’s coming into us and we need a path report please. Does that make sense? If you are going to send me a tissue or a block something informal in, send me a pathology report so my pathologists know what they are looking for, and they can select the collect the right stains and we can cut down the amount of testing we are doing.That way we can also drive down the cost.

Anybody doing quad screens in the room? Couple, ok. Quad screens you need a ton of information for Quad screens. Don't you? It's crazy the amount of information, and now what we need with new guidelines out last summer, we need the smoking status for the patients, so we need to get that information, just think about that. One more piece of information.

Now it's easy to get if you are paper. Just change the form, print out new ones and you go. But how many people are taking orders on paper versus electronic order entry? So now it's electronic order entry and now I have to rebuild my test in my LIS to ask that asked order entry promptl. And oh, by the way I have to modify the report too because that's gonna go out in the report. Who has awesome IT resources that respond at the drop of the hat? Yeah, see that was the applause I was looking for because you guys get it because it is the biggest joke in the room. Right, IT resources. What?
Ok so we had a legacy lab information system at our organization and it was like 20 years old and when we replaced it we were able to replace it with a system that allowed us to act like program all these asked order entry questions. Right, and it dropped this number significantly but it's still there because if the person sending us doesnt know they N/A it, don't know. And then what happens is we end up calling you back. I actually need the patient's weight and height so I can do the calculations and get you a test result.

So I submit to you that this is a huge hidden cost through our laboratories because what we are doing is playing telephone, right? Think about it. Nurse to lab, lab to referral lab. Back and forth it's telephone, especially if you have an outreach and you are a spoken hub system and so these people are sending you samples, so it's not even within your grasp. You have to make another phone call. It's a ton of money. And in some cases it's the lab assistant money and in some cases it's a bench tech that's taking the time, you are taking them away. Nevermind the fact that these samples are probably being delayed because I don't have the information or we collectively dont have the information to get the testing result, Right?

So one of the things that we did at Mayo is, I got wrapped up with a little process improvement project. Mayo clinic sees patients from all over the world in the country. That no news, but what we have is doctors like to follow their progress over time and because they want to track the same reference values, same test methods, same validation. What we do is we have a team that puts together kits, the doc puts their order in, we take this kit and we mail it out to our client, client being the patient in this case. Patient gets this kit with these instructions, goes to the local provider, they do the collection, they package it up and send it back to us. Seems simple, right? No. Remember the first slide, not as easy as it sounds.

Ok so we had a problem getting collection date and time, so central processing were used to coming in calls in the collect area and says “We are having a big problem getting date and time, We don't even know if the sample is good, Maybe we have to cancel it”. And they are like “Whoa, ok we will try and call that out a little bit”. So in this what you can see that little yellow piece, line 4 they sort of highlighted it. There was manual intervention, quick easy 30 manual intervention. It didn't do that much. Why? because collection date and time is buried down on line 4. It's buried, ok.

So I got involved and we went to our patient education people. They are the experts, Right? They are the ones who put in the patient’s ed material. Do this, do that and 38 other things. And what we did is we took it from Line 4, slid the collection date and time up to line 1. Right because that is the collection instructions right there. Draw this, mention this. Give a certain date and time. And because we didn't want it highlighted anymore which is a manual step, increased costs because you are manually processing it, right? So we had a tremendous success with this, and it was easy because it was paper. Ok, so now here is the kicker. A lot of patients that we are tracking are male clinic organ donors, sorry organ recipients. So we are doing immunosuppressants on these people and so we are tracking them over time.

Now If I don't have a collection date and time, I’ve gotta toss that sample. What's the repercussion? Patient has to get stuck again, the provider has to issue a new order or the provider doesn’t notice it and the patient goes uncollected for a little while and then we potentially have an issue.

Are organ transplants cheap? No, so let's start thinking about cost, the hidden cost of just a simple thing of information. Don't worry about the icteric, the lipemic all that stuff, let's focus on the small stuff. So that's my challenge to you. Go back to your organizations and start to look at the information pieces you have and what you don't have and start to look for trends. Where can I get this and how can I make it better? Ok, because there are patients involved and at the end of the day we are trying to do the right test for the right patient at the right time.