



## Quality and Safety Series, Season 1, Episode 2: Rapid-Cycle Improvement

The speaker is Christine Bailey, Quality Improvement Organization Executive Director, HSAG.

Speaker 1 (00:03):

Today we're going to be focusing on rapid-cycle improvement. So, our objectives for today is going to be to define what is rapid-cycle improvement, identify the steps in rapid-cycle improvement, and discuss the key differences when you're doing rapid-cycle improvement versus a standard quality improvement process. So, what is rapid-cycle improvement? It's really defined as a quality improvement method that accelerates change in efforts in three months or less. So, really keep that 90-day timeframe in mind as we talk through this. And, it uses the PDSA cycle, and you want to make those test changes during a very short timeframe. So, as a result, you really have to be monitoring concurrent data so that you can have almost a real-time feel of how the changes in your process. And then you want to adapt. So, how do we get started? You'd still have to do that prep work.

Speaker 1 (01:13):

Looking at where your problem is, doing that root-cause analysis, those five "whys," and really define what you're trying to accomplish. Then, the next is how will we know that a change is, is resulted in an improvement? And that's all about the defined measures and identifying the data, you know, the process data versus outcomes data. So, it's really critical that you look at the right data and data sources, and then select the change. So, based on your root-cause analysis and your process mapping and those things that you do before you start your rapid-cycle improvement. So, some key reminders, again, focus on a small sample, focus on an area. So, if we're doing some a rapid-cycle improvement, we don't want to do it hospital by this is taking a unit or an area, a department and implementing it in that more controlled environment.

Speaker 1 (02:24):

Until you get that process fine-tuned, it's very short cycles, 90 days. So, it's so important that you adhere to those timelines. You're trying to change or measure to be able to rapidly monitor it and detect any, any positive or negative results limiting your interventions. So, SMART goals, it's specific, measurable, attainable, relevant, and time-bound. So, that makes up the acronym for SMART goals. Your goal really is your vision. Your SMART goal serves as your team's vision. It's going to give them a sense of where you're going. It's going to give you some direction and purpose. It'll give you some context to really check yourself to make sure you're staying within the scope of the project. So, measure, and this is so critical, you know, Peter Drucker is quoted as saying, "what gets measured gets managed." And if you're not measuring the right thing, it could really send you down some rabbit holes.

Speaker 1 (03:36):

So, we need to quantify the relationship between the inputs and the outputs. What do we need to change? How are we going to measure it? Your data will drive you to, to look at where your problems are and, and always keep in mind the process measures. How will we measuring our process? It's really important to get the frontline staff, see what data's already out there and, how easily is it accessed. Is it a report? Is it something you

can run? Is it something that has to be run for you? So, those are the kind of things you need to really look at when we look at measure. It's important to have a data collection plan. And again, this further gives context to what you're looking at. So, what to measure, the name of the parameter what is the type of measure, process, or outcome; the type of data, is it attribute or measure?

Speaker 1 (04:38):

Operational definition. So, you need to write that definition out and really think about it. I would rather spend time, you know, planning and getting that definition and everything clear than getting halfway into a rapid-cycle improvement and realize we're not looking at it correctly. So, you really need to find, you know, and define what that desired result is. And, that could be increased over time standardized form or some standardized method and timeframe for collecting your data sampling. Now, what I will say with this rapid-cycle improvement and small test of change, you're doing it so quick, I don't recommend sampling because you've already reduced it by focusing on a specific unit, a specific department. And you're going to need as many data points as you can get to be able to identify if your change made a difference.

Speaker 1 (05:44):

So, you have to have a good baseline. It has to be long enough so that, you know, sometimes there's common cause variation, there's seasonality, there's a lot of different things that can affect your outcomes. And if you pick a measure that's documented, it's been documented, it's already a standardized way that you're collecting something, then you retrospectively can a lot of times run reports out of your EHR. If not, then you need to at least have a good three to six months of sampling. I mean, ideally, a baseline, we like to have a year, but you know, sometimes we, you know, we can't wait a whole year before we implement a project. So, you know, look at that baseline and then, who's responsible for that, getting that data? Where is the data? Again, I just have to warn you about variation. If you don't make changes, you're not going to get true improvement.

Speaker 1 (06:48):

And no matter how long you want your data, so you know what to change? So, we're going to kind of take a quick step back and really, really look at, again, even though you're doing rapid-cycle improvement, we need to look at the pre-work, understanding the problem, getting that multidisciplinary team, and looking at different perspectives. Always, always, always engage your frontline staff to really drive home how important that is. And then identify the root causes. And a lot of times there's more than one, but when you're doing rapid-cycle improvement, again, keep your scope small And then, target those interventions that change or the change will, will address the root causes. It doesn't matter if you're doing PDSA or whatever, model it is, you know, a lot of these tools can help. So, we're going to take a look at a couple things.

Speaker 1 (07:49):

Critical quality trees and more depth process mapping. Stakeholder map mapping. The Ishikawa or cause-and-effect fish bone diagrams. So, at a high level, this is really a critical to quality tree. What are you trying to change? What is the voice of your customer? So, you need to define what that is. And this takes you through three steps. So, what are your quality drivers, but then what are your performance requirements? But those performance requirements are really good indicators of how, what measures you're going to look at. So, you go from very general to specific. So, study and analyze. So, this is really looking at your data, displaying the data, and it's really [you] have to know how, what's the best way to display your data? And, typically when we want to

look change over time, we'll look at run charts, or control charts, or SPC charts, which is, there's statistical process control charts looking at upper and lower controls.

Speaker 1 (08:57):

And then analyze the data. So, when you're looking at the data, did I get the results that I thought Did my intervention create change? And if it did, was it good change or bad change? So, you want to look for the impact to your intervention. And then, just a very high-level rule of thumb. And sometimes, you need more than this. When you're looking for rapid-cycle improvement, you're looking at daily or weekly data. But typically, our rule of thumb is when we want to look at true change versus just some common-cause variation, we definitely want to see five to eight points above or below the mean, and to really identify it as a trend. So, you know, we all have fell into this trap with variations. So, we're looking at our charts and we're looking at our data and you know, there's a couple points that go above that mean, and everybody's happy.

Speaker 1 (09:58):

We're going to celebrate. We're seeing change, and then all of a sudden, we have a month or two that drops down. Why isn't this working? I want answers. We've all fell into this trap and then all of a sudden, it improves a little bit. A) We're reacting to common cause variation, <laugh> and B again, if we haven't changed anything, we we're not seeing true improvement if we haven't changed anything. So, again, your processes are designed to get the results they yet. So, if you don't change anything and you're just watching that data go up and down around the mean, you're not really creating change. So, we talk about variation at a high level. Common-Cause variation really is, you know, you have your upper and lower controls and you know, you see up and down, but it doesn't really go out of those upper and lower control limits.

Speaker 1 (10:59):

So, the fluctuation is caused by unknown values resolving in standard or steady, but random distribution. Do not react to these points. They're really not a trend. And the broader that swing is, the less stable your process is, by the way. So, then the next is special-cause variation. So, that's really a shift caused by some special factor. And, and then the last is a true trend. And again, you know, showing those five to eight data points, it's a pattern. You're moving in that direction over time, it's consistent. And a trend could be good or bad, you know, you can implement something and it does be exact opposite and you're not getting the results you want. So, I like to call 'em the three A's. So when you look at your data, you see what's happening, you have three choices adapt. So, some changes realize, but I need to modify my process.

Speaker 1 (11:59):

I'm going to tweak things a little bit, I'm going to adapt things a little bit, maybe change the process so it's easier for the nurses to use it. Adopt. So yeah, this is going good, but I want some more data points, so I'm going to adopt this process and continue it, or abandon. So, this has been a complete <laugh> failure. We've realized no change or we've found out there's a pitfall that the process changes too cumbersome. It's not going to work. So, then we abandon. So, adapt, adopt, or abandon. So, two things, and you'll hear a lot of people focused on spread and scalability. So, spread is the ability to replicate that intervention in other areas. So, again, I'm going to take that process and move it to another unit and I'm still going to have the same outcome. And then scalability is really then being able to build that infrastructure, that sustainability, the ability to monitor that process.



Speaker 1 (13:06):

And we're going to do full scale implementation. So, maybe I am going to do a small test to change on one unit or one department, and then I'm going to spread it to another, and then I'll spread it maybe to one more and then say, okay, we're ready for full-time. And then, we will make sure we have all those things in place and scale it to implement it for the, the entire hospital system. Nursing home, I talked about this, the timeline really important. You keep that timeline for rapid-cycle improvement. So, again, free work. You've really got to look at that, put that team together, look and identify evidence-based practices. Look at the data, you know, then you want to really start clarifying your scope, creating benchmarks, do your critical quality tree. Again, we, you know, week two, you want to start reviewing the goals, building your business case, evaluating the cost and benefit.

Speaker 1 (14:10):

Three is complete the project design. Create your strategy and implementation plan. Week four, you want to train, implement, and then you're going to start analyzing and evaluating for change. Week five, again, analyze and make any changes. They adapt, adopt, abandon. Then you might, you know, remember this can be about 90 days, so we've got three months. So, you may want to repeat that week five until you get your process where you want it to be. And then again, you scale, and then spread. So, our takeaways rapid-cycle improvement. Remember, 90-day initiative, it's quick. A rapid cycle uses all steps of the PDSA, but focuses on small group and target areas. The alert to that scope creep is so easy to fall into that trap. And remember you're just doing that rapid cycle through that PDSA process. While you are making changes, quick test to change data will drive your decisions. And lastly, once the outcome is achieved, you can scale and spread.

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