



SANFORD HEALTH-SIOUX FALLS REGION IMPROVES THE TECHNICAL QUALITY OF THEIR ECHOCARDIOGRAMS THROUGH PEER REVIEW



QI TOOLKIT CASE STUDY:

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About Sanford Health

Sanford Health is a large network/enterprise with sites in SD, NE, MN, IA, MT and worldwide. They are an integrated system with hospitals, clinics, and a network of services. This project is from the Sioux Falls region.

Quality process and metrics are important to Sanford Health as a whole, and in the Sioux Falls region there is an annual Performance Improvement (PI) Fair/Symposium. Every department is expected to submit a poster to highlight work they have been doing over the past year. It's gotten quite large – over 200 projects. Other areas, outside the Sioux Falls region, have their own fair/symposium as well, and sometimes the different departments will go to them to share ideas amongst other enterprise sites.

About the Interviewees

Interviewees and QI project team members include:

- Sandy Josko – Project Sponsor, Echo Department Manager
- Susanne Parks and Elliot Nelson – Project Leads, Echo Lab Leads
- Sarah Johnson – Administrative Assistant
- Bridget O'Brien – Director of Cardiovascular Services
- Jill Swanson – Education and PI Projects

What is the focus of this QI initiative?

This QI project focused on improving the technical quality of echocardiogram (echo) images and the reports.

What challenge or problem does this QI initiative address? How did you know this problem existed?

This is a busy department doing 80-120 echocardiograms per day. The project began as the result of comments from physicians who read the echo images on a daily basis. They indicated concern about the quality of the images and brought their concerns to the manager of the echo department. In discussing their concerns, the physicians offered suggestions for improvements. There was also a recognition from the sonographers and staff themselves that they could do better.

We developed an Aim statement to:

- Improve the quality of images
- Improve the patient history in the reports
- Improve the equipment use

We focused on what a textbook image looks like and what information the physician needs.

We didn't have a specific target percentage of improvement in mind at the beginning because we wanted to first see where we were. We wanted to keep high numbers high and improve in other areas.

Why was this a priority for your facility/organization? What was the role of leadership in supporting this work?

Quality is a priority for Sanford Health and is well supported. Each department at Sanford is allocated 4-8 hours per month for QI work. We believe that Sanford's emphasis on QI instills it as a value of how we all approach our work as a constant process of improvement. The organizational backing is phenomenal.

How did you implement this QI initiative?

We use Plan, Do, Study, Act (PDSA) cycles at Sanford.

Pre-work:

- First, we identified the issues – the things that needed to be looked at for improvement.
- We collected data to know where we were so we would be able to measure any improvement when the changes were made.
- We reviewed the American Society of Echocardiography (ASE) guidelines, created an outline, and collected data to see where we needed to start.
- We have a team with QI representation from every department at Sanford. Echo representatives go to a PI meeting every month.
 - For this project, we had echo representatives and we added lead sonographers to the PI meetings.
 - Our meetings were in person, and included the manager, Sandy, and both leads, Susanne and Elliot. It was a big team effort. Frontline staff were there to discuss barriers, how to improve, and how to implement change. We needed to allow staff to determine how they will work at the bedside.
 - Leadership involvement helped keep things going.

Plan:

- The Manager, Sandy, and the two Leads, Susanne and Elliot, were primarily involved in making the plan.
- Our Clinical Learning & Development Specialist, Jill, guided the education process, making sure the education included what needed to be covered to make the desired improvements.
- The Project Sponsor, Sandy, gave them ideas of what she wanted to see and advised the team on how to do it – they thought of how to do it, and what they wanted to change. The team would then meet about it and take it from there.

Do:

- We looked at random studies to review the quality of the echo images and the reports. The two lead staff chose one random study per quarter per sonographer. They tried to mix them up by cardiologist reading the study/leading scans to ensure a cross section of all cardiologists over time.
- We initiated education of staff, which included reviewing cases with sonographers to talk about how to improve. The intervention included:
 - Unit meetings to present information and obtain feedback.
 - Meeting outside of the unit meetings if special coaching was needed.
 - Having Leads available for questions and to give pointers.
 - If a sonographer had a question, Leads would do research to find the answer and share it with the entire team to educate them on the issue.
 - Leads were constantly updating the team with things that came up along the way as well.
- We gathered feedback from frontline staff along the way:
 - We held monthly meetings with discussion of the quality of echo images as a regular agenda item. We asked physicians and sonographers for input.
 - We created an open environment for staff to put forth suggestions outside of meetings to improve workflow.
 - Providers reached out to the Manager and Leads directly to ask questions and to provide ideas.
 - We hold an echo conference every month with fellows, sonographers, etc. to present interesting and challenging case studies. There is an open discussion and a great opportunity to get feedback from physicians, thoughts on what is going well, and ideas to improve.

Study:

- We reviewed for five quarters. The first two quarters were the actual intervention and the second three quarters focused on reviewing and fine-tuning the process using rapid-change.

Act:

- We are continuing this process. Studies are reviewed every quarter with sonographers (24 of them). The quality is monitored with constant feedback as needed to continue improving the work.
- ASE guidelines change every year, so we are trying to stay on top of techniques to improve information for physicians and patients. Education about any changes are presented in meetings with any new criteria and notes. We do this annually, biannually, or as needed.
- Every patient and every scan is a little different, so education is ongoing to find ways to improve.

How did you communicate your results?

- In unit meetings, we passed along positive feedback from physicians.
- During monthly meetings, we discussed follow up, where we've seen improvement, and thanked people for their work
- We have shared ideas and communicated with other echo departments at Sanford but haven't recommended that they do this yet. We would be open to sharing it. Other projects get shared among the enterprise (system-wide), it just depends on the topic and the need.

When implementing this approach, what went well?

- Staff had an open mind – everyone acknowledged the problem and wanted to fix it.
- Staff realized they have someone available to help them figure out solutions.
- The images were reviewed with improvement in mind, not to be punitive. This interaction between lead and sonographer improved overall atmosphere in the lab.
- Susanne and Elliot have great passion for their work. As leaders for the team, they believed in what they were teaching and doing – this made their investing in it important.

What were some of the challenges?

- Some sonographers, who have been there a long time, were a little slower to come along, but they came on board when they saw the improvements being made.
- We have a very large lab where we do 80-120 studies per day. It was challenging to have the time to take samples and review enough scans from each sonographer. We needed to do enough to have a fair sample but also have enough time to do it and give feedback.
- It was challenging to get all players together at the same time (sonographers, physicians, leads).

What did you learn along the way? What changes, if any, did you have to make to your approach?

- We can't think of any changes we would have made to this approach.
- Moving forward, it would be helpful to set specific measurable goals for improvement. We didn't set a SMART goal for improvement and that would be helpful in the future.

What were the outcomes of this QI initiative? Is this process still in place? If so, how did you make that happen?

- The technical quality was greatly improved by this process.
- The team felt an accountability for ensuring the study was filled out correctly, the report for physicians was ready to go, and the machine was used to the best ability to get images for the physician. Axis quality improved by 35%.
- Use of the medication perflutren was decreased, possibly because we had better images so maybe did not need as much.
- This is the way we now do the work. It was not just a short-term project, but an ongoing process. We review studies every quarter with sonographers (24 of them) and monitor the quality and constantly give feedback if needed to continue improving their work.

What advice do you have for others who are considering starting the QI process?

- Start small. It can be hard to get started because ideas are so big. Ask staff what the pebbles in their shoes are. Even the smallest changes make huge impacts.
- Collect measurable data.
- Share improvements as you go. Make it visible for the staff you are working with so they see their efforts are making a change. Staff get excited when they see the graphs indicating change.
- Staff buy-in is very important. Changes are sustainable if staff feel like these changes will positively impact their work.