

How SEAM Could Help with Beaker Implementation in an Ambulatory Clinic Department

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Abstract

When problems occur in health care organizations, departments, or processes, management frequently targets improvements on organizational structures, work processes, and the related behaviors of employees. Such improvement initiatives are often short-lived or fail because underlying dysfunctions and hidden costs are not first recognized and addressed. One medical system implemented a new electronic medical record and accompanying workflow in an effort to eliminate mislabeled or unlabeled specimens in its lab. Management implemented these changes without fully understanding the downstream effects on the end users of the process, failing to recognize that the success of the new workflow would depend upon employees who had little or no say in creating it. As a consequence, the process did not work well, and employees were frustrated by it. The paper analyzes how underlying dysfunctions led to management's poor decisions and concludes by showing how The Socio-Economic Approach to Management (SEAM) could have produced better outcomes.

Keywords: dysfunctions, SEAM, TFW virus, Beaker, EPIC

The nature of the problem in a medical facility

Many grand plans in organizations are created in silos; they are tested using assumptions understood by only a few individuals and then rolled out to the entire organization. Although the plan works well for those who created it, others often experience problems unanticipated by the originators. As a result, people outside the original silo have trouble understanding – and being patient with – the people who rolled out the initiative. The bottom line is that even the best-laid communication plan will not help during a rollout if the new process does not work well for the people upon whom it is imposed.

This story begins at a large medical facility that decided to upgrade their lab system's electronic medical record (EMR) to include an EPIC Systems Corporation module called

“Beaker.” The previous system design did not “talk” (in computer terms) directly with EPIC, so orders and results had to cross through an interface, making it an awkward and slow process. The lab had been seeing many specimen errors including samples without patient labels, incorrect labels, wrong collection sources, or incorrect orders. The lab staff believed that Beaker would provide a much better system for ordering and tracking specimens, reducing errors, and thus increasing patient safety. A project management team was formed to plan implementation of the project, including a subgroup that used Lean Six Sigma to analyze the process from a patient perspective and to assure that improvements in the system were measurable. The group included stakeholders from the Lab, Information Technology (IT), registered nurses, certified medical assistants (CMAs), managers, and two physician champions. This group mapped out and refined a process that would work for clinicians at clinical sites, with their primary goal being the safety of patients and having specimens correctly ordered, labeled, and reported. However, the plan produced unintended consequences.

The first problem with the upgraded system arose in outpatient settings because Beaker required specialized label printers. Departments that collected very few specimens usually had a centralized printer located in a common work area, whereas departments doing many specimen collections generally had decentralized printers located in each examination room. This meant that the workflow for the collection process depended on whether the printers were centralized or decentralized. Further, the design of the Epic system required Beaker to go live, making it impossible to pilot or practice orders under the new system. Thus, label printing was done in “real time,” and the workflows were, in essence, tested by providers who were dealing with actual patients.

The second unanticipated problem was that under the new system, a lab test had to be ordered and signed by the physician before a label was printed, and the label then had to be verified and initialed by the patient before it could be attached to the specimen receptacle. This sequence required a complete change in practice for some providers. Previously, such providers collected a sample, labeled it, and then had a Certified Medical Assistant (CMA) enter the order as they moved to the next patient. Now the provider had to learn to navigate the lab orders in Beaker, figure out how to release them, print a label, and then electronically “collect” the specimen in Beaker. All this was done in the exam room while a patient was providing the specimen. The Beaker workflow added multiple steps, created frustration for providers, and produced an increased number of errors.

The third problem was that the lab staff had to have all pieces of the process done correctly before they were able to test the system. This forced them to call departments multiple times each day to have orders corrected and specimens electronically “collected.” The electronic collection was a new step to be completed in the Epic system by the provider after the physical specimen had been collected. This step electronically time-stamped and added the collector’s signature to the specimen. In their pursuit of quality and safety, the lab staff refused to run the

test if specimens were unlabeled or mislabeled. In respect to safety, it was the right thing to do, but this also meant that staff did not run labs that listed the wrong source or had flip-flopped labels, although they were ordered correctly and actually belonged to the same patient. In such cases, patients had to return for additional testing, if samples were still retrievable. Any lab order defined to be an error was discarded, and departments did not have the opportunity to correct the error even if they were able to do so.

The fourth problem is less technical and more human. It is perhaps the most troublesome of all the challenges. The providers and staff responsible for ordering, labeling, and collecting specimens on the front line became frustrated and formed the opinion that the new process was flawed, poorly tested, and that their concerns were ignored. Physicians were making more errors, and the process was slowing them down. This put them behind schedule and added to their belief that they were overworked and overstressed. They felt unappreciated and that management "kept piling more task-level" work on them, thus taking time away from patient care.

Overall, because of the new system and the electronic medical record (EMR) in general, providers now see fewer patients than before the change. Meanwhile, the organization is pressuring them to see more patients, produce more revenue, have higher patient satisfaction scores, and attain higher quality scores. Although entering orders and printing labels may seem like a small thing, it has created disproportionate levels of dissatisfaction among providers and their staffs. As witnessed in this example, ideas created within silos and then imposed throughout an organization often have unintended consequences. Principal among the problems is that the people who are expected to use the new ideas can be left feeling frustrated and devalued.

Background of SEAM theory

In order to understand Beaker through the SEAM lens is to realize that problems, or what SEAM calls "dysfunctions," and their root causes are a product of a system and not the fault of individuals. The dysfunctions develop out of underlying assumptions about people and work, and they negatively impact organizations both financially and socially (Conbere & Heorhiadi, 2011). These underlying assumptions are a result of what creators of the SEAM theory, Henri Savall and Veronique Zardet, termed the Taylorism, Fayolism, and Weberism (TFW) Virus. These three were influential management theorists in the mid -1800s to early 1900s who proposed how industry and business should operate efficiently. Although they each were attempting to add to the effectiveness and efficiency of the workplace, their contributions, when taken to the extremes that they were, "infected" organizations in an unintended, negative fashion. These theories simply do not fit the needs of the times, yet they still profoundly influence modern management thinking today (Heorhiadi, Conbere, & Hazelbaker, 2014).

What were the dysfunctions in the Beaker implementation?

Listed in the six categories below are some of the dysfunctions that were experienced in the Beaker process. The dysfunctions are critical because they contribute to hidden costs in the forms of wasted time, wasted money, overpaying, and missed opportunities.

1. Working environment.

- a. The printers malfunctioned.
- b. The labels were small, and the printing was difficult to read. Deciphering which label to put on what vial was challenging.
- c. Providers found it difficult to enter orders because they could not easily navigate the EMR.

2. Work Organization.

- a. The normal workflow was disrupted when it shifted to the new process.
- b. Providers' concentration was interrupted by having to remember all the tasks in the EMR. They got flustered with the patient in front of them and felt incompetent about computer skills.
- c. Confusion existed about the roles and responsibilities of the providers and CMAs.
- d. Physicians believed they were doing work that lower paid employees should do.
- e. CMAs believed work they should do had been taken away; they felt stuck between unhappy providers and a new but inefficient process.

3. Time management.

- a. Extra steps in EPIC took more time during an appointment. Appointment lengths were not adjusted to account for this problem.
- b. The providers were responsible for more and more documentation in the EMR.
- c. The CMAs' work was displaced.
- d. Providers ran behind schedule because of the extra steps in EPIC and printer/label challenges.
- e. The lab wasted time calling multiple times to clinic offices to correct errors so that they could run requested tests.
- f. Both the lab manager and the clinic manager had to address safety reports that were created daily for every type of error.

4. Communication, cooperation, and coordination.

- a. The lab staff and the providers, CMAs and RNs did not understand each other's needs, workflows, hurdles, and limitations.
- b. Providers who collected multiple specimens were excluded from development of the strategy.
- c. Once implemented, the new system lacked a feedback loop for process improvement. The feedback the providers gave was "This doesn't work!" and the message they believed they heard was, "Do your job and quit complaining."

5. Strategic implementation.

- a. The project management team did not have all the right stakeholders involved.
- b. The new process was not piloted in a real work environment nor did it anticipate the needs of departments with high volumes of specimen collection.
- c. Successful implementation of the workflow was dependent upon management's understanding and involvement in training.
- d. Management assumed that providers would do as they were told and not be disobedient. Physicians are independent, and many do not like being told what to do.
- e. The Lean Six Sigma methodology, while useful for improving patient centered processes, did not address more significant human factors nor did it capture input from stakeholders who make critical decisions within the process.

6. Integrated training.

- a. Training videos simulating the process with only a single specimen collection did not reflect what happens in the actual exam rooms.
- b. The lab staff received no training about what the clinical staff actually does within the process and vice versa.
- c. Providers were expected to complete online EPIC Beaker training on their own time. Many did not understand the training and, when the process went live, were offered only a hotline number to call with questions.

What were the root-causes of the Beaker dysfunctions?

As shown in Figure 1, dysfunctions are the result – or symptoms – of the TFW virus in the workplace. The causes of dysfunctions outlined in the previous section are depicted in the

figure as twigs and branches, the targets of most traditional improvement and change efforts.

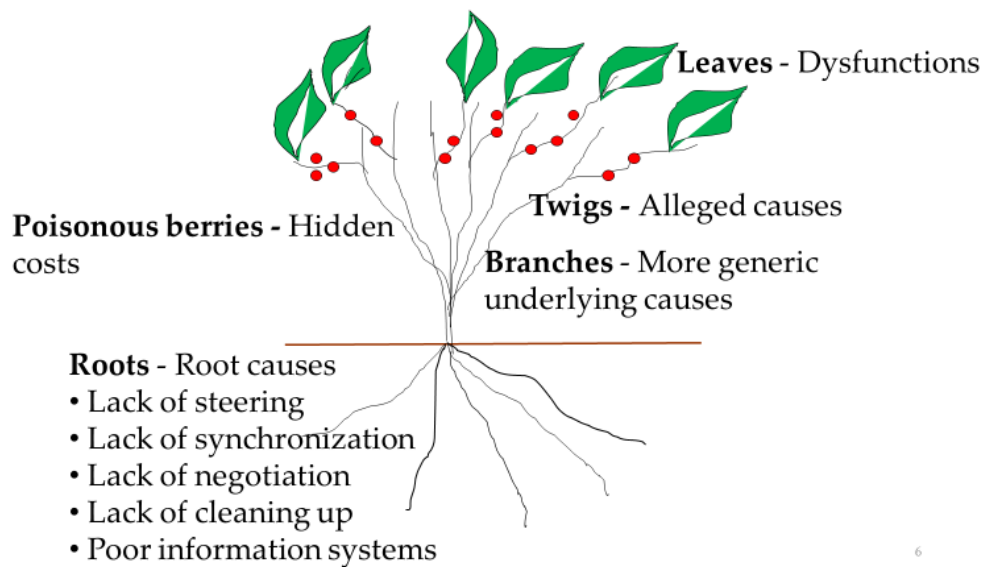


Figure 1. The root causes of dysfunction. (Used with permission of SEAM, Inc).

SEAM, however, targets the five root causes of the dysfunctions. SEAM's uniqueness and success starts with a research-based methodology that assigns values to the hidden costs associated with the dysfunctions. This process removes blame from individuals and looks instead at the entire system. In so doing, organizations can focus on fixing dysfunctions, their underlying causes, and their hidden costs rather than trying to change organizational structures or behaviors of the people.

Lack of steering. Senior leaders nominally sponsored the project management team but had neither direct involvement nor understanding of the project. Although sponsors are expected to champion and announce projects to the organization, in this case they did not. Thus, the project team was left to align the project to the organization's general aspirational goal of "zero preventable harm," attempting to engage and inspire employees around the purpose of optimizing the EMR. Although that sounded good in theory, the goals of the Beaker team were simply not aligned with the actual goals of management or staff. The managers failed to steer their departments and providers, having not understood the impact of the project on their units and employees. This process missed the mark – by a long shot – of creating "engaged and inspired people" through the EMR optimization.

Lack of negotiation. Those most affected by the new process, had no say or opportunity to negotiate in the planning and implementation stages of the project. The project team's assumption was that everyone would be willing to adopt the new workflows because the changes were about patient safety, ultimately based on recommendations from the Joint Commission (a national accreditor for health care systems). Although during Six Sigma meetings it was

acknowledged that providers did not put in orders on their own and that this new process would create a painful learning curve for them, the team decided to move forward anyway. They assumed that providers, CMAs, and RNs should all perform specific steps in the new process. None of those employees were given an opportunity to negotiate about what tasks might be taken off their plates to accommodate these new duties.

Lack of synchronization. Other than among the members of the small Six Sigma team, there was little sharing between the organization's departments or "silos." The decision to implement "Beaker" was made by the senior leaders, but the department level had little choice about/involvement in the decisions, measures, timelines or training. Lab, informatics, and clinical operations were working feverishly on the new process but going in different directions. In one example where synchronization failed, a physician was trying to order a standard lab test that she had ordered for years. She could not find the correct name of the test in the new system, so she ordered one that she believed came close. She collected the specimen and called the lab to explain that the order she wanted was not listed in Epic, but she needed that particular test performed. In turn, the lab called to say they could not run the test because there was not a correct order within EPIC, and consequently filed an error report. After many calls, it turned out that the informatics people had not built all the labs into the new system. The lab was unaware of missing orders, informatics did not know what was missing, and the result was that the clinician could not order the test that the patient needed.

The limitations of Six-Sigma

Lean Six Sigma methodology, while useful for process improvement and waste reduction, is considered only one tool in addressing dysfunctions in a SEAM process rather than THE process for improvement. The Six Sigma method was limited by its narrow view of the project. Although it affects many employees in the organization, it is a process that focuses on patients. However, if a system values the patient above all else and does not consider the needs of those who make the system work, ultimately the patient loses. Both are important and need to be considered in the process. In the case of Beaker, the planners should have included more physicians (particularly those with busy practices) among the stakeholders. The Six Sigma team was short-sighted in that it defined the solution and implemented it without anticipating the downstream effects on providers, wasted time, rework, and the resulting workplace disengagement. Because Six Sigma focused so much on processes, waste, data, and outcomes, but not on the "socio" people needs, it lacked the interest-based negotiation that SEAM emphasizes. The good news is that it has now been almost a year since the implementation of Beaker. Leaders are now starting to listen to physicians who have voiced their struggles and have created a task force to address their concerns.

How SEAM would be helpful in Beaker implementation

What did not work in this project was communication between departments or “silos.” The right people were not all included in the process. The purpose of the project was not clearly communicated, nor it did not mean the same thing to everyone. The leaders and managers were not steering their organizations toward a common vision. Dysfunctions and associated hidden costs surfaced, and the people performing the new process felt devalued. Many elements of SEAM would have been beneficial in improving this situation. Specifically, those include: investment in human potential, focus on cohesion, and addressing dysfunctions and hidden costs.

People are smart and able to solve problems if given the opportunity. At the heart of SEAM is the belief that humans are an organization’s greatest assets, and the role of leaders is to find that potential and remove barriers to using it (Conbere & Heorhiadi, 2011). New processes are best developed by those who understand them and use them. Employees need to have a voice that is heard and valued. Having responsibility for successful outcomes gives meaning to their work. When projects are successful, and an organization recognizes that success is due to the talent of the workforce, then they are more willing to invest in their employees. In the Beaker case, acknowledging and tapping into the potential of the employees would not have been enough. Rather, successful implementation of the project required cohesion among the various stakeholders.

Henri Savall has said that to increase success in organizations one needs to increase cohesion and decrease the influence of the TFW virus (H. Savall, personal communication, October 17, 2017). Cohesion is the ability of groups to cooperate and synchronize without outside force. The TFW destroys cohesion by destroying the ability of the group to cooperate spontaneously (Savall & Zardet, 2016). Given this, if the silos involved had started the Beaker project with cohesion, then cooperation, communication, and negotiation between them would have been stronger. However, the project also had to have proper steering by leadership and management for cohesion and synchronization.

The SEAM management tools, notably the internal/external strategic action plan, priority action plan (PAP), and the periodically negotiated activity contract (PNAC) would be beneficial in a process such as Beaker. The first tool aligns the internal strategic goals: identify areas to reduce dysfunction, prioritize the goals, broadly outline actions needed, and identify who oversees each. It also is a guide for the external goals that dictate what the organization will do with gains from growth because of internal strategic goals. The team might go back and use this tool to align the project with the strategic goals of the organization, figure out which dysfunctions were a priority, and decide who will do what by when. The PAP is what makes the strategic plan workable, because it is holistic and synchronizes the silos (Conbere & Heorhiadi, 2016). Because each silo would see each other’s action plan, in essence everyone would be communicating. The PAP would help the providers, clinical staff, lab, IT and management calculate what is reasonable to expect from each other as well as manage their own time and

expectations for the project. The PNAC would be used to negotiate each unit's "piece of the pie" so to speak. For instance, the providers could use it to negotiate the added time they need for appointments, and the cost associated with longer appt times would be offset by the savings of reducing hidden costs.

One final tool that would be helpful is the competency grid. This tool could have helped the team understand what people at department levels were already doing, what skills they had, and what skills were needed to successfully implement and sustain the process into the future (Conbere & Heorhiadi, 2016). This tool would have shown that some providers were ill-equipped with computer skills and could have helped tailor training to accommodate their needs. Additionally, the grid would have shown gaps in staffing, competency, and interpersonal skills.

Personal Reflections

Each time I explore SEAM, I learn something new. One of the best lessons was how the TFW virus influences my thinking and approach to management. Despite what I have learned from SEAM, I still find myself thinking that employees should ignore their own needs, "give an honest day's work for an honest day's pay," and be grateful to the employer for their jobs. I sometimes fear that by being more compassionate and flexible, I will put myself in a difficult position. If I allow one-person flexibility, how will I be able to offer it to everyone and what problems will that cause me in the future? SEAM has caused me to think through my underlying assumptions and beliefs. I was raised in a family that valued hard work and loyalty to employers. From that background, I learned that being a good employee meant doing as the employer instructed and not asking for special treatment. The metaphor of the virus reminds me of their influence and how I must make a conscious effort to readjust my thinking and behaviors.

By being aware of what the TFW virus has done to influence coworkers and friends, it has become evident that we all have distorted views about our time, patterns, abilities, and happiness. These distorted views are appropriately called "magical thinking" (Conbere & Heorhiadi, 2016). I practice magical thinking and so do my leaders. The beauty of the term is that, once named, most of us can see it in how we behave. In turn, this allows us to do something about it. For example, I have started talking about magical thinking with my leaders, who can now see it in themselves and throughout the organization. By discussing magical thinking with my boss, I have been able to negotiate about what to take off my plate before I take on something new. In the past, I simply accepted new duties because they made me feel that the leaders depended on and trusted me, until I got overloaded and became discontented.

I am intrigued by human potential and believe that people are an organization's greatest strength. When employees feel devalued, they lose interest, creativity, and willingness to develop their potential. In my department, long-term employees say they have no interest in learning new roles, furthering their education (even if offered to them by the company), or moving into

supervisory positions. They say they are “happy as is.” I have had an uphill battle encouraging employees to share their thoughts and invest in themselves. That likely is because I have not yet identified their interests, making it impossible to match their needs and wants to appropriate training. In my magical thinking about time, I have sometimes provided staff with learning opportunities but not given them the time they need to learn.

Based on what I have learned from SEAM, I am now talking with staff about the skills and competencies our department needs to be great at its work. I have asked individual employees to think about their needs and interests so that we can discuss them in upcoming annual reviews. My goal is to start filling in the competency grid. I believe the competency grid tool will help us better shape training to the needs of employees and, in so doing, help develop the human potential that is available within the department. The grid also will show where our gaps are and what we must do to address them. I look at this tool as a way for the whole department to be involved in shaping our success now and in the future.

I must admit to a certain level of personal frustration now that did not exist before I went to Lyon. I have just begun to scratch the surface in my understanding of SEAM, and sometimes when I try to explain it to others the words come tumbling out in a jumbled mass. SEAM has transformed my thinking about work, but I cannot yet articulate nor fully understand how to put it into practice. I clearly see the hidden costs of dysfunctions and the incredible opportunity to harness knowledge to bring about meaningful change in my department, but I am not there yet. Just as frustrating for me is knowing that SEAM could help the entire organization focus on the human potential of the workforce instead of the bottom line. Our mission is to make a healthy difference in people’s lives. Whereas we work hard to make a healthy difference for patients, we fall short of achieving that same goal for employees. Frustrations aside, I now have hope. It is empowering to know that SEAM provides a potential antidote to my organization’s version of the TFW virus.

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