Enabling the Healthcare Quality Improvement Cycle

Syntex

Global Leaders in Enterprise Risk Management Software

NAVIGATING RISK WITH PRECISION

Syntex Whitepaper

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Executive Summary

The key to improving quality in healthcare organizations is to ensure that unplanned events, issues, audits, reviews, and other quality and risk-related programs are managed effectively and performed consistently. Each should follow a quality improvement cycle, which includes:

1) *Discovering* and *reporting* near misses, low consequence events and issues
2) *Responding* to and *diagnosing* these items and determining their root causes, and
3) Implementing, closing, and validating action items to *correct* the problems at the source and *prevent* them from occurring in other areas.

It is important to optimize existing events and processes by applying, monitoring, and improving the key elements of the quality improvement cycle. The right information system will *enable* the quality improvement cycle, and will consequently provide the data collection, automation, and analytics that are necessary for continuous improvement.

Introduction

If you are looking for the silver bullet, the next big thing, a newly discovered "cure" that will prevent the operational issues, mistakes, and incidents that threaten to harm your patients, staff, reputation, or bottom line – then you can stop reading now. This paper, hopefully in a refreshing manner, will offer no such elixir.

This paper is not about "what" you should be doing to improve quality – you already know these things. You know that QI/QM surveys are effective in identifying areas of improvement. You know that Near Miss reporting systems enable you to quickly halt further damage and to learn about current process problems. You know that suppliers and machines make mistakes and that inspections are necessary. You hire good people and train them well. They strive for excellence. Environmental tours, Tracer forms, Event management, education workshops -- these programs and others like them are making a difference, and should be applauded. You are doing these things. Yet costly errors still occur.

No, the remedy for your Healthcare quality issues does not involve the implementation of a new process or program. Ongoing improvements will come about by doing what you are already doing -- well. With excellence. Consistently. In all areas and departments of your organization.

There are pockets within your organization that are performing their existing quality-improvement tasks well, and pockets that are not. There are processes that are carried out with discipline and others where key steps are treated as optional. Unplanned events occur where the follow-up and close-out is sufficiently completed, while other similar events are barely examined. Some folks look upstream to uncover the sources of issues – the systems that need to be improved, while others base recommendations solely on the outcomes and the immediate causes.

This paper is about "how" to improve your *existing* processes and programs, and thereby improve the overall quality of care you provide. The key is to apply and enable a "Quality Improvement Cycle" for every existing process -- to perform it consistently for every event, to learn from the data it provides, to correct the underlying system problems it exposes, and to iterate where appropriate. Quality improvements can be steadily achieved without implementing new processes and without employing significant new resources. This paper is about how.

Check-up: Is the Quality Improvement "Medication" Being Taken as Directed?

"We are what we repeatedly do. Excellence, then, is not an act, but habit." – Aristotle

It would be great if you could send an email to all the physicians, nurses, and pharmacists in your organization with a directive to "start doing X" or "stop doing Y" and then reap the benefits of improved quality of care and clinical outcomes. Physician reminder systems, audits, near miss programs, quality management programs, Joint Commission Reviews – all of these are good and have been proven to positively affect quality performance measures[1]. However, it is simply not enough to implement a new process or program. The key is that the activities performed as a part of these and similar initiatives must be performed correctly and consistently.

Correct and consistent performance yields the intended benefits of any process. Take this event for example: At the point of accessing an automated medication dispensing system, a nurse notices that the 2mg / 1 ml vial of Morphine Sulfate has a different color cap than usual. She immediately conducts the essential steps of medication administration and determines that the label, while similar to the label for the 2mg vial, specifies that this vial is indeed 10 mg / 1ml. In addition to getting the corrected amount for the patient, did the Nurse report this event as a near miss? Are other events like this one being consistently reported? Who was notified? Who responded and when? Were the details completely captured? Were the causes determined? Which system failed? What were the recommendations? Were actions completed to correct the issue? Were preventive measures taken at other areas to avoid a similar occurrence?

Each of the above questions reflects a common step in an established Near Miss reporting process which is intended to:
- Encourage more reporting of - and learning from - events, issues, and mistakes
- Avoid a similar or more severe event
- Determine the underlying system problem that needs to be corrected
- Correct the problem at its source, and
- Prevent the issue from occurring within other areas of the organization.

Think about your existing programs, policies, and processes that are designed to identify issues, improve quality, or reduce mistakes. Are they achieving the desired results? Are they being followed correctly and consistently? How do you know? What are you measuring? What do you need to work on to improve?

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[1] Physicians and The Joint Commission, The Patient Safety Partnership; The Joint Commission (http://www.jointcommission.org/Physicians/md_tjc.htm)

Remedy: Follow a Quality Improvement Cycle

"The solutions all are simple - after you have arrived at them. But they're simple only when you know already what they are." -- Robert M. Pirsig
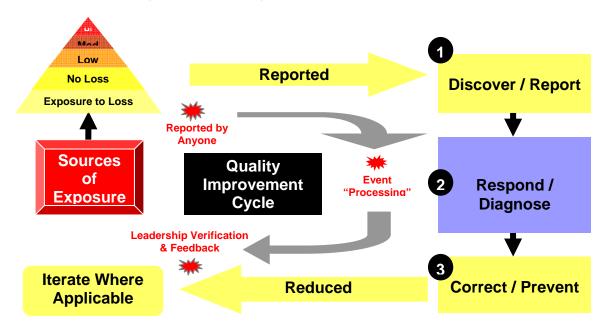
Identify issues. Communicate. Respond. Follow up. Close out. Repeat.

It sounds so simple doesn't it? Yet many Healthcare organizations do not correctly and routinely perform these straightforward activities for their critical processes, and therefore they remain exposed to many sources of risk[2]. Again, it's something we all know we should be doing, but are not doing effectively. It's the Quality Improvement Cycle[3], and it's at the core of every process that is designed to reduce risk and improve operations.

Exhibit A introduces the Quality Improvement Cycle in its simplest form, which is:
1) Discovering and reporting events and issues
2) Responding to and "diagnosing" them, and
3) Resolving the underlying problems in order to reduce the risks.

Exhibit A: The Quality Improvement Cycle[4]

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[2] "Health Care Provider Use of Private Sector Internal Error-Reporting Systems." Adam R. Roumm, Christopher N. Sciamanna and David B. Nash; *American Journal of Medical Quality* 2005; 20; 304

[3] Based on the "Risk Reduction Cycle" process pattern, identified and systematized by Joe Stough, Executive Vice President of Product Strategy and Founder of Syntex Management Systems, Inc.

[4] While there are many permutations to "cycles" such as these, The Quality Improvement Cycle explained in this paper represents the author's recommended approach.

1. Discover and Report

"Watch the little things; a small leak will sink a great ship." -- Benjamin Franklin

The beginning of the cycle is the discovery of an issue, a finding, an error, an unsafe act, a deviation, or an actual incident. These are items that represent the "pyramid[5]" of operational risks to which the organization is exposed, and they are discovered *proactively* via planned events, or *reactively* via unplanned events. Programs such as Inspections, Audits, Accreditation-related Assessments, Tracer Surveys, Environmental Tours and the like are considered proactive in nature, while Sentinel Events, Incidents, Errors, and Near Misses are considered to be reactive in nature. The entire organization should be *discovering* as much as possible through the existing proactive programs, and *reporting* every unplanned event – regardless of the actual consequence or outcome[6]. The primary benefit of this stage in the cycle is the production of a high-volume, "balanced pyramid" of operational risk data which serves as the foundation for learning and improvement. The major challenge of this stage involves overcoming the cultural barriers related to reporting events. The keys to success are: educating personnel of what should be reported and why; providing easy-to-use tools; and presenting feedback when events are reported.

2. Respond and Diagnose

The middle of the cycle involves communicating, responding to, following up on, and analyzing events that are reported. The steps in this part of the cycle are unique to your organization, and may vary by process, or source of the event that is discovered. The activities in this stage are critical to proper risk reduction and, unfortunately, are the most-overlooked and under-performed steps in the cycle. Common respond & diagnose activities include:

- Responding to the event with appropriate communication and leadership
- Assigning the right people to "process" (classify/investigate) the event
- Classifying the event according to potential risk and actual severity
- Investigating the higher-risk events to determine system failures and underlying causes, and
- Sponsoring recommendations that should be implemented.

The benefits that can be gained from this stage of the cycle include the correct determination of the sources of problems and their resolutions, and the inherent capture of both process performance measures and causal factor information. The challenges of this stage consist of infusing these steps into everyday work practices, and ensuring accountability and follow-up of their consistent completion according to each process or type of event. The keys to success are: to streamline the steps; to apply additional rigor to higher-risk items; and to provide visibility into who is doing what and when.

3. Correct and Prevent

The final and most important phase of the cycle is to reduce the risks that have been discovered and diagnosed. In this phase, approved recommendations are converted

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[5] Heinrich's "Accident Triangle." "Heinrich's Law." H.W. Heinrich
[6] "Bird's Ratio." "Bird's Law." Frank E. Bird, Jr.

into corrective and preventive action items that are assigned to a person responsible for their completion. Again, the steps are organization-specific, and may vary by the "source" of the action item. Common activities include: prioritizing and assigning the action items; completing the action items; approving the resolutions taken; and validating that each action achieved the desired results. Another important part of this phase is the sharing of the event information with other areas of the organization, so that the action items -- or other activities of the cycle -- can be repeated in those areas to reduce similar risks.

The major benefit of this stage is the reduction of risk. The challenges include: creating action items that resolve system issues without penalizing personal errors; monitoring the action item process; and ensuring acceptance and on-time completion of action item responsibilities. The keys to success are:

- Correctly performing the steps in the "Respond and Diagnose" stage, so that valid action items can be created
- Prioritizing action items based on potential risk of the event or issue
- Providing easy-to-use tools for managing action items
- Creating action items that prevent reoccurrence;
- Rewarding on-time completion of action item responsibilities, and
- Communicating and presenting results so that the organization sees the value of the improvement in the process.

Regimen: Optimize Quality-Related Processes

How do you put your organization on the path to steady and continuous quality improvements? The solution is to optimize each of your existing processes. Leveraging existing processes for your future quality improvements *maximizes* the benefits of those processes while *minimizing* the time and resources required for change. First, enable the Quality Improvement Cycle for every process that is related to quality or risk reduction. This will allow you to then measure and monitor the performance of the Cycle and the proactive and reactive event outcome data collected. Most importantly, implement improvements based on the measures. This is the essence of continuous improvement.

1. Enable the Cycle for Existing Processes

"The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency." -- Bill Gates

Exhibit B illustrates how a leading operational improvement web-based software tool enables the Quality Improvement Cycle. First Report and Assessment Wizard (1) forms are provided to everyone in the organization in order to facilitate the "discovery & reporting" of reactive and proactive events, respectively. The Incident Module manages the "respond & diagnose" activities and information for all unplanned events, and the Assessment Module enables proactive events (2).   A Risk Matrix (3) can be applied to rate the potential risk of any event or item that is collected. This risk rating allows more rigorous attention and follow-up to be applied to the more significant issues, which is especially useful when numerous events are being entered into the system. The

Investigation module (4) facilitates the investigation process, allowing leaders and team members to determine direct causes, underlying causes, HealthCare System Elements, Accreditation categories, and other items for all events. Findings and Checklists (5) can be used to capture the outcomes from any Proactive event. Action items (6) implement the corrective and preventive improvements.   The Business Process Automation Framework (7) uniquely automates each business process with automatic assignments, email notifications, statuses and business rules. The High Learning Value Event module (8) enables the distribution, accountability, and follow-up for sharing lessons-learned and other information when the actions or other activities need to be iterated in other areas of the organization.   Finally, the Reporting and Analysis module (9) is used for ad-hoc analysis, dashboard presentation, and regulatory reporting for the information collected from all quality and risk-related events organization-wide.
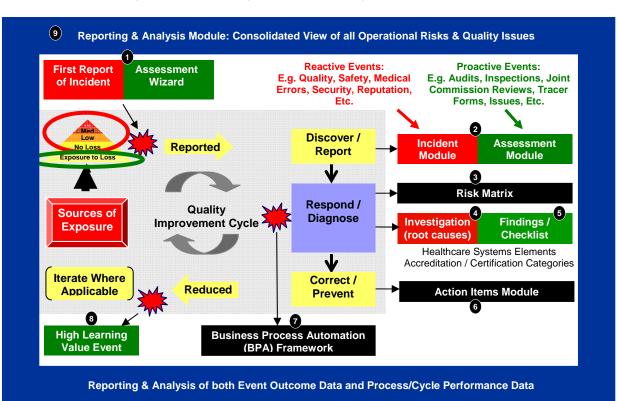
Exhibit B: The Quality Improvement Cycle as enabled by IMPACT ERM® Suite[7]

2. Measure Process Performance and Event Outcome Data

"You can't manage what you can't measure." – William Hewlett

Once business processes are being managed within a toolset like the one described above, there are two major categories of information that can be measured and used in dashboards, reports, and analysis: 1) the event outcome data; and 2) the process performance data.

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[7] Syntex Management Systems, Inc.

The "event outcome data" represents all of the facts that were discovered and determined when collecting and managing the events. These are items such as the date/time, description of the event, equipment or substance involved, etc. This can include any data point that is pertinent to understanding the event. If a consistent process is followed for all events, it will include root cause information and the Healthcare system information that needs improvement. Collecting and analyzing event outcome data will reveal the discrete issues and risks to which the organization is exposed and the reasons they exist. This allows organizations to formulate broad action plans to address known problems and prevent the occurrence of significant incidents. The key is to have a robust reporting tool that includes standardized reporting and ad-hoc analysis of the data in order to improve decision-making.

The "process performance data" is information about how the Quality Improvement Cycle is being performed. This data is naturally collected when the events are automated in the system[8]. This provides measures of reporting culture (how well the organization is discovering and reporting issues), action item management and completion, leadership responsiveness and participation, and event processing (how issues are being investigated and resolved). The purpose of this information is to provide measures of organizational factors that are indicative of the effort being placed on quality improvement. These are actionable measures that can be used to improve the specific organizational factors that are conducive to improving operations. The key is to have a dashboard tool that monitors the organizational factors and highlights the ones that need to be improved in each area of the organization.

3. Continuously Monitor and Implement Improvements

"A bad system will beat a good person every time." -- W. Edwards Deming

The improvements that are implemented based on event outcome data are usually directly associated with the event itself, or with a trend that is identified in the analysis. When the Quality Improvement Cycle is correctly followed, then the event facts will be complete, the causes will be determined, and the underlying system problems will be identified. This will enable specific actions to be taken to correct the problem at the source, and to prevent similar problems from occurring in other areas of the organization. The key to lasting quality improvements based on this type of data is to focus investigations and action items on the improvement of Health systems – not mistakes made by individuals[9].

The improvements implemented based on process performance data are more periodic in nature. They are based on recurring reviews of the organizational factors that are revealed and measured when the Quality Improvement Cycle is in place. As stated above, these are factors that indicate the importance and effort that is being placed on quality and safety. There is a 3-step process for implementing improvements based on this type of data:

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[8] IMPACT ERM® Suite

[9] "To Err Is Human: Building a Safer Health System." Linda T. Kohn, Janet M. Corrigan, and Molla S. Donaldson, Editors; Committee on Quality of Health Care in America, Institute of Medicine

1. Analyze to find quantifiable differences in the organizational factors.

Start by examining the event outcome data in an effort to identify the strong performers in your organization from the weak performers. What departments / hospitals / clinics deliver superior patient satisfaction, achieve better survey and audit results, and are having fewer significant incidents and issues? Once these strong performers are identified, determine what they are doing differently – in terms of the Quality Improvement Cycle – from the weak performers. Are they reporting more near misses or completing more proactive assessments? Are they consistently putting action items in place when events are reported? Do they have a good on-time completion rate for action items? Are they consistently risk-rating events? Are they consistently determining causes? Are leaders involved in events and responding in a timely manner? This step will expose the organizational factors that should be monitored and improved.

2. Apply these factors as performance indicators in management dashboards.

The system should be configured to create a dashboard that presents the organizational factors that have been identified. The specific measures used in the dashboard will vary by organization, but will include metrics such as: volume and mix of reported events; % on-time completion of action items; timeliness of responses within acceptable limits; etc.

3. Monitor and improve the organizational factors.

Quarterly, semi-annually, or annually, the dashboard should be reviewed to make decisions. As a result, action items should be created to strengthen the organizational factors. For example, if action items are consistently falling past due, then a reward mechanism may need to be in effect for on-time completion. If leaders are not participating in quality-related events, then the system may need to be configured to automatically assign them to key activities. There are many directions that can be taken to improve the organizational factors. The key is to acknowledge and reward performance of the Quality Improvement Cycle.

Discharge: Conclusion

Installing a new information system will not by itself improve quality and patient satisfaction, reduce incidents and errors, or make your healthcare organization more efficient and profitable. It is imperative to optimize the key elements of the quality improvement cycle and apply these elements to existing quality and risk-related events and processes to:
1) *Discover* and *report* near misses, low consequence events and issues
2) *Respond* to and *diagnose* these items and determine their root causes, and
3) Implement, close, and validate action items to *correct* the problems at the source and *prevent* them from occurring in other areas.

However, the right information system will *enable* the quality improvement cycle, and will consequently provide the data collection, automation, and analytics that are necessary for continuous improvement.

Data Collection and Integration

To reduce risk and improve quality, you must know the risks and issues that you face. For a system to provide this information it must be easy to use, and it should enable the collection of many different types of events, issues, near misses, audit and survey results, etc. with minimal impact on the user. It should also integrate data from other systems that can be analyzed along with the events that are reported. For example, you could integrate human resource staffing information to compare incidents with staffing shortages to determine if short-staffing is an underlying contributor to poor performance.

Business Process Automation

To engage personnel in essential activities and to enable process improvements, an information system must be simple and unobtrusive, and must make day-to-day operations more efficient. The system should automate as much as possible, so that data can be collected, personnel can be notified, tasks can be assigned, and actions can be completed faster than via manual methods. Automatic email notifications ensure communications occur according to procedure and without effort. Automatic assignments bring the right people in at the right time, without mistake. Many tasks can be completed within email, eliminating the need to navigate into an information system. Business rules ensure the steps are followed in a prescriptive manner. All of these functions combine to streamline the full life cycle of events and action items.

Reporting and Analysis

To make informed decisions that will result in quality improvements, and to efficiently satisfy regulatory requirements, you must have robust reporting tools. When data collection is centralized into a single platform, regulatory reports can be automatically produced, approved, and distributed. Ad-hoc analytical tools will enable you to identify trends in event types, non-compliance issues, root causes, and many other items. Dashboards, charts, and graphs present information in a clear manner and highlight areas that are doing well, and others that need improvement. The right analytical tools will not only monitor performance, but will also automatically place information into the hands of the right people so that they can evaluate it, make decisions, and take appropriate action.

Follow-Up: More Information about Available Solutions

To help assess the value that could be created within your company with this type of approach, you can request more information at:

http://www.syntexsolutions.com/downloads/resource-request.asp

About the Author

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Todd Lunsford has an M.B.A with a focus of information systems consulting and has been helping companies achieve their business objectives via enterprise software implementations for the past 11 years. Todd joined Syntex Management Systems, Inc. in early 2003 after spending 1 1/2 years working with our company and our technology as a consultant. His previous experience was with Computer Sciences Corporation (CSC) where he was a principal consultant working with many different clients to deploy ERP (Enterprise Resource Planning) systems such as PeopleSoft and SAP. After 4 years of providing his implementation and project management expertise to our Services organization, Todd became a Solution Engineer in January 2007. In this role, he supports our Sales Executives throughout the sales cycle by providing business solutions, product content information, and demonstrations for the IMPACT ERM Suite® of applications.

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About Syntex Management Systems, Inc.

Syntex Management Systems, Inc. designs, develops, and delivers commercial software solutions for Operational and Enterprise Risk Management (ERM) in multiple industries. Syntex enables organizations around the world to reduce their exposure to loss while implementing continuous process improvement to create an annually renewable impact on their bottom line. Through continuously improving the execution of enterprise-wide management systems, our customers improve their performance across operational, quality, compliance, auditing, reputation, environmental, health, safety and security management functions. As a result, Syntex has unequaled expertise in making our customers successful and protecting their reputations by turning continuous improvement strategies into repeatable practices and policies using the power of our enterprise class software solutions. To learn more about Syntex and our products and services, please visit our Web site at www.syntexsolutions.com or email us at info@syntexsolutions.com.