Importance of Health Information in Performance Excellence and Process Improvement

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Common and unintended errors in today's healthcare system can create major complications for patients, personnel, and systems. These error-related issues can harm patients, affect quality of care, increase operational costs, impact competition, complicate reimbursement, delay technological advancements, and slow down processes.

To identify and address these challenges, continuous process improvement (PI) and performance excellence (PE) methodologies must become an integral part of any healthcare system. According to a report by the Institute of Medicine (IOM), the majority of medical errors result from faulty systems and processes, not individuals. Adopting various PI methodologies is not only important to healthcare quality, but is crucial in identifying inefficiencies, improving effectiveness of care, and preventing errors, all in an effort to guide system change.

PI and PE methodologies are being deployed by health systems to provide safe and improved quality of care to patients, improve clinical workflows, maintain cost-effective operations, embrace newer technologies, and fulfill customer expectations. Value in healthcare depends heavily on workflow efficiency, which is the result of maintaining optimized standards of patient care and improving customer satisfaction in high-stress environments.

Using Performance Improvement and Excellence Methodologies in Healthcare

Performance improvement—the ability to identify, analyze, improve, and sustain a process with the aid of Lean and Six Sigma methodologies—uses a range of approaches to systematically improve quality that can be applied across different patient populations. Quality improvement (QI) as it pertains to healthcare is defined as "systematic, data-guided activities designed to bring about immediate improvement in health care delivery in particular settings."

According to the Baldrige Excellence Framework by the National Institute of Standards and Technology (NIST), PE refers to an integrated approach to organizational performance management that results in three outcomes:

1. Delivery of increased value to customers and stakeholders, which then contribute to sustainability
2. Improvement of overall organizational effectiveness and capabilities
3. Organizational and personal learning

Most commonly used methodologies in PI and PE include:

- A3 Problem Solving
- Value Stream Mapping (VSM)
- Plan-Do-Study-Act (PDSA)
- Plan-Do-Check-Act (PDCA)
- Gemba Walks
- Define-Measure-Analyze-Improve-Control (DMAIC)
- Agile workflow management in a process through visual systems (Kanban)
- Continuous Improvement (Kaizen) strategies

Depending on the problem or opportunity to be addressed, any of the aforementioned methods could be utilized to improve a process by using available data or information to create a framework.

For methodologies used in healthcare to address a problem, it is critical to use appropriate and necessary health information in each step of PI. To successfully implement and sustain PI and PE approaches, information provided and exchanged through health information technology (HIT) is critical in understanding current and future opportunities, setting goals, implementing future state, and creating sustained growth. To improve the quality of patient care, reduce and prevent medical errors, improve accessibility and affordability of healthcare, improve administrative efficiencies, and reduce the amount of paperwork needed, extensive use of HIT within the healthcare industry becomes essential.

An important initial step in a PI initiative is to comprehensively review the current state with the intention of identifying gaps in process measures leading to subpar outcome measures. An example of a process measure is the assessment of the usage of guidelines for care of diabetic patients by healthcare providers. The final result, which may include medical outcome, mortality, and patient satisfaction, can also be influenced by factors such as environment and patient behavior, and can provide the outcome measure.

The availability and accessibility of health information plays an important role in programs such as clinical documentation improvement (CDI). According to AHIMA, a successful CDI program accurately facilitates the translation of a patient's clinical information into coded data which is then utilized for hospital quality reports, provider report cards, payer reimbursement, information related to public health, and for tracking and trending diseases. Improvements in the clinical documentation and coding process are important for improving quality of patient care and for revenue cycle management.

If the health information is unavailable, insufficient, or inaccurate, then the problem statement is not well defined and current conditions are not clearly understood. This could result in the team being focused on addressing a process which may not achieve the set goal or change the outcome, such as an increased case mix index (CMI) for all payers.

Performance Improvement and Root Cause Analysis

When using A3 problem solving, a tool developed by Toyota, significant time is focused on the root cause analysis (RCA) of an event where an error has occurred. RCA plays an important role in identifying underlying problems—systems and process—that increase the likelihood of errors while avoiding the trap of focusing on mistakes by individuals. RCA follows guidelines on investigating the what, why, and how of an event by asking key questions of core team members involved to gather information. RCA uses HIT to collect data by reviewing processes and by analyzing systems to better understand the event. The underlying cause of the error, which may be the result of a lack of proper education—a new lab employee may not have oriented appropriately on blood transfusion process—or a failure in process—the lack of a proper review by staff members to verify patient ID bands—is then identified and documented. It is very important to have all the information available to ensure that RCA is conducted thoroughly to identify the cause of a problem. Without this information and data, it is not possible to address barriers that caused the problem and thus improve processes in order to prevent future errors.

When measured and tracked, PI efforts can provide insight into determining if new processes are leading change in the desired direction, are having any unintended results in other systems, and are requiring any modification to control the process to bring back into acceptable range. Having the correct technology to measure and track health information accurately and effectively ensures that PI efforts are able to achieve their goals within specified time frames and are able to modify improved processes for sustainability.

An electronic dashboard showing reports can provide visual information of ongoing PI work. However, without proper knowledge of data points to report or a clear understanding of the reports, measuring improvement becomes less meaningful. For example, hand-hygiene compliance could be monitored using an electronic system that doesn't take into account other process variables and outliers, such as dead identification badges, a malfunctioning system, emergency codes, and more—and how those variables correlate to the outcome of hospital-acquired infections.

A successful value stream mapping (VSM) consists of multidisciplinary teams working together to identify the current conditions, identify parts of the process, collect and analyze data, set goals, and develop new processes and countermeasures. A visual map of the existing process is created by the team who is close to the work or conducts the work to better understand the current conditions and to offer a roadmap for improvement. Detailed information from each team member is required when outlining the process to ensure all of the steps are captured. The purpose of a VSM is to eliminate non-value added steps, minimize value-enabling steps, and to optimize value-added steps to improve value for the patient. When mapping a value stream, any missing information can have significant impact on identifying areas of improvement, measuring

improvement, analyzing outcomes, and setting and achieving goals. According to the Institute for Healthcare Improvement, measurement is a critical part of testing and implementing changes. Accessibility and availability of the process improvement measures provides the team with information to make any modifications to the new process and to check whether the new process is leading to improvement.

PI and PE methodologies are paramount in importance to health information and available data. Considering the increase in PI and PE initiatives in the healthcare system, access to appropriate, accurate, and sufficient health information and data is essential. Being able to fully understand the process and identify the opportunities can ensure that interventions are implemented and sustained to reach the desired outcome of providing safe and effective patient care.

Notes

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