Quality Improvement and Quality Improvement Data Collection Methods used for Medical and Medication Errors

Objectives

1. Describe Quality Improvement
2. List the Stakeholders involved in improving quality
3. Discuss Quality Management
4. Define the role of regulatory bodies and quality management
5. Defines medication and medical Errors.
6. List the different types of data collection methods used to identify the cause of a medication or medical error.

Purpose

The purpose of this continuing education program will be to acquaint the learner with quality improvement, quality management, the stakeholders involved in quality improvement, and the various types of data collection methods used for quality improvement involving medication and medical errors within a health care organization.
Quality Improvement and Quality Improvement Data Collection Methods used for Medical and Medication Errors

Quality improvement can be described as a structured analysis of systems with a view to improving its performance (Arasaratnam, 2012). The historic foundation of quality improvement dates back to when the quality of one’s craftsmanship, resting in the skills of that individual (Improvement Foundation, n. d.). Individuals’ skills were followed by companies meeting a quality of standards that was determined by several inspections (Improvement Foundation, n. d.). Qualities of standards lead to the use of statistical process controls, and quality considered a function of the process.

The functional process of quality improvement was first view by Avedis Donabedian, in 1966 (Warrier, and McGillen, 2011). The functional process was known for assessing quality in health care that required the evaluation of three separate areas: structure, process, and outcome (Donabedian, 1966). Health care entities are not able to measure quality improvement in health care unless the organizations precisely identify what went wrong in the processes and outcomes (Donabedian, 2005). Identifying what went wrong and making changing that leads to quality improvement can create positive outcomes. Additionally identifying what went wrong requires stakeholders’ involvement.

Stakeholders

The difference in stakeholder’s definition of quality depends on the stakeholder. Stakeholders are key people, groups of people, or institutions that may significantly influence the success of health care organizational activity (Stakeholder Analysis, 1998). Stakeholder’s in health care include organizational health care providers, patients, employees, and payers, and the roles of
each stakeholders in quality initiative differ. The Department of Community and Family Medicine (2005) describes quality from a patient to the employer perspective to offer extensive options for health coverage that meet his or her health care needs. Additionally employers make every effort to minimize the organizations cost contribution per employee. Therefore, organizations advocate employees make every effort to reduce behaviors that poses a health care risk for example, smoking cessation, healthy diets, and exercises.

**Quality Management**

Quality improvement is a growing force in health care (Arasaratnam, 2012). Individuals present with a variety of health care needs therefore, suppliers as a stakeholder of services want his or her consumer to receive the best service. The consumer on the other hand, would like the best modern technology with high quality of services for his or her health care needs.

Quality management can be described as a high set of standards that stakeholders set expectations for (Ransom, Joshi, Nash, and Ransom, 2008). These set standards in quality management consists of tools that aid with the strategic goals that the organization want to achieve. In the health care delivering high quality of services permits organizational growth.

**Quality Management and Monitoring Quality in the Health Care Industry**

Quality is needed in the health care industry because it regulates best practices, deliver positive outcomes, and save lives. The health care industry have the obligation to provide high quality patient care by acquisition and allocation of health top care professionals, following a set of regulatory standards aimed at quality based on structures, processes, and outcomes, ensuring employee health care competencies, and workforce training and development. According to Arasaratnam (2012) improving quality require a collaborative effort form stakeholders. Furthermore, without a collaborative approach failure is imminent.
Roles of Accrediting and Regulatory Organizations

As there are multiple regulatory bodies involved in the quality of health care, all regulatory bodies must be taken into consideration when determining the quality of services that the organizations want to provide. Based on the type of health care organization one must first consider the Joint Commission on Accreditation of Healthcare Organizations. “JCAHO is a national standards-setting body that accredits over 16,000 health care organizations and programs in the United States, including hospitals, managed care plans, home health services, nursing homes, assisted living facilities, outpatient health-care services, and clinical laboratories (American staffing associating, 2004).” The Joint Commission standards are centered on processes that aid health care organizations to measure, assess, and improve performance. These high quality standards position emphasis on the high quality, safe care of the consumer. The Joint Commission offers reasonable and achievable surveys for health care organization that would like to maintain, and improve quality in health care.

The United States Food and Drug Administration (FDA) encourages nurses and other health care providers to report medication, and medical errors to a preferred database, which is used to assist other professionals in avoiding similar mistakes (Adams & Urban, 2013). According to the Agency for Health care Research Quality (2010) medication error occurrences produce over 770,000 injuries and deaths annually, and can cost a hospital 5.6 million dollars. Data collection of medication errors is imperative for performance improvement. The purpose of this paper is to describe the various types of quality data collection methods used for medication errors in hospitals.
Data Collection

Data collection is a process of monitoring particular rates to identify medication, medical error trends and implement an immediate plan of action for a solution (Thacker & Berkelman 1998). Hospitals in the United States understand the importance of establishing data performance measures to capture, and report medication errors caused by human, and non-humans to prevent future occurrences (Dlugacz, 2006). In addition hospitals can use the various quality data tools to develop effective criteria for resource allocation improvement efforts, promote patient accountability, prevent medication, and medical errors, and improve communication about medication, and medical errors. Healey & Zimmerman (2010) illustrates in order to compare the various quality data tools; there is a need for reliable and consistent data. Długacz (2006) determines that comparing and contrasting that various data tools can help leadership understand quality improvement efforts aimed at cause and effects in regards to medication errors.

Description of a Fishbone Chart and Medication, and Medical Errors

The National Council of State Boards of Nursing (2012) describes a fish bone chart as cause and effect diagram. The fishbone chart allows for individuals to identify the root cause of a quality problem, in this case a medication, or medical error. The use of the fishbone chart allow for the identification of several smaller errors in medication, or medical errors that lead to a larger errors. In the effort to address, and identify all types of errors, a fishbone diagram must be illustrated. The medication, and medical error represents the need to look at the root cause and identify what needs to be changed. According to McLaughlin & Kaluzny (2006) analyzing the root cause in health care is used to identify the underlying causes of the errors, what were the causing factors of the event and to design a plan of action to prevent recurrence.
Using the results of the illustrated fishbone chart the main three variables of the data collected that caused the medication error is the process, pharmacy, and the environment. The process can be identified as many tiers on the fishbone chart. The process can include, people involved that labeled the medication, the equipment that was used to label, and dispense the medication (Faulty), and the policies that must be followed when dispensing medication. Acute care hospitals rely on the use automated dispensing cabinets other than human capital as a primary source of medication distribution (ADCs) (Helmons, Dalton, & Daniels, 2012). Gaunt, Johnston & Davis (2007) illustrates that the impact of ADCs on medication safety has been devastating. Additionally the use of ADC has resulted in a large amount of medication errors. An additional contributor to the medication error is the pharmacy. The pharmacy is the location where the medication error occurred.
Pareto Chart

In comparison to the fishbone chart that is used to identify the root cause of the medication error, a Pareto chart can be used to quantify the data identifying number of occurrences. The quantified data is then placed in a simple display of a histogram or a bar chart to determine how frequent the medication error occurrences were. A Pareto chart is a vertical bar chart with the bars to give the viewer a simple visual of the number of occurrences, and the contributing causes that was already identified in the fishbone chart (McLaughlin & Kaluzny, 2006).

Once the cause and effect have been identified a Pareto chart can be used to identify the number of exclusions of the five rights to medication administration that occurred. While identifying the number of frequencies of omissions, of the five rights of medication administration McLaughlin & Kaluzny (2006) illustrates that to improve quality, frequency do not mean that most occurrences should be worked on first.

Control Chart and Variables of Interest

Control charts are visual chart that include numerical data that will determine medication error rates. A control chart has the ability to identify problems, analyze data, and evaluate the results of the data that can be a use for action, and performance improvement. Hospital that identify medication errors or near miss on medication errors are “out of control”, a control chart can be used to identify why (Joint Commission, 1988). The control chart can be a useful tool to determine what was in control before, and has there been any change to the processes that is creating ciaos. Control charts are very data tool for looking at variables of interest on performance improvement processes of medication errors.
Dashboards and Variables of Interest

Regardless of the data collection tool used by hospitals to capture the medication error all organization must choose a tool to determine the cause or causes of the error, and immediate actions for a resolution. A dashboard is a computerized data tool that will provide the hospital with significant timely data with information needed to make immediate decisions that will improve the quality of patient care. Dashboards for example, can monitor the five rights medication administration for a large number of patient volumes. The dashboard can be set up in a way that if any deviations of the five rights were omitted a “red flag” is then generated and quality management leadership can create an immediate corrective action. According to Health Information Technology and Quality Improvement (n.d.) dashboards offer an excellent way to pull internal reports and analyze the day-to-day quality of care. Dashboards interface with hospital electronic health records, and make it easy for quality management to generate a numerous variable data analysis surveillance reports.

Scorecard and Variables of Interest

In comparison to dashboards scores cares is a data tool used to display hospital key performance indicator, and key performance goals. Scorecards are usually located within a dashboard. Microsoft Office (2012) illustrates that a scorecard give one a visual of grafts that indicates the hospitals achievements or non-achievements to achieve organizational goals. When one visualizes a scorecard he or she sees a snapshot of key performance improvement indicators, and a viewpoint of the hospitals goals success or failures. Viewing a snapshot of the hospitals
scorecard allows for quality management to re-evaluate the hospitals performance goals for non-achievements, and implement a plan of action.

**Conclusion**

In conclusion health care stakeholders aim should be focused on improving health care outcomes. Proving outcomes based on evidence base practices of the consumer will contribute to the organization strengths and weaknesses ultimately improving health care quality. Health care organizations outcomes are based on the consumer behaviors. Organizations that want to improve their outcomes would benefit from developing a structured analysis of systems that will improve the organizations overall performance.

Quality data collection is used for performance improvement measures. Continuous quality improvement requires that performance data be monitored to identify trends and implement corrective measures. Patient safety is a priority for hospitals and health care regulatory bodies. Using data to implement an immediate corrective plan of action for medication errors is imperative to prevent future occurrences. Regardless of the data collection tool used by hospitals, a medication error is a life threatening event, and every effort should be coordinated for prevention.
References


QualityImprovement/whatisaclinicalqualdashbrd.html


The Joint Commission on Accreditation of Health care organizations.


