MANAGING OUTCOMES USING ROOT CAUSE ANALYSIS

Written by Denise Wassenaar
Chief Clinical Officer, MatrixCare®
INTRODUCTION

The Affordable Care Act was signed into law March 23, 2010. A key provision to the Act is the need to revise the healthcare delivery model of the United States to achieve the goals outlined in “The Triple Aim” (figure 1).

Consequently, there is a new emphasis on balancing quality and financial expenditures with the desired outcome being improved population health. To achieve success all three must work in harmony. Many of the new healthcare delivery models feature clinically integrated care with a universal focus on outcome management. All providers: acute care, physicians, post-acute care, and other ancillary providers must join together to achieve collective goals. This is currently reflected in the emphasis on managing re-hospitalizations. Prior to the signing of the Affordable Care Act, the U.S. healthcare delivery model was comprised of many individual silos with little accountability for outcomes or the management of costs. The new models reflect an expectation that all providers will be accountable for the care delivered to the population they serve. The quality of that care is measured through quality outcomes.

This white paper discusses how quality outcome management is achieved using root cause analytics.

OUTCOMES MANAGEMENT

Outcomes management is defined as the “use of information collected through the measurement of outcomes to improve the effectiveness and value of treatments and services”.\textsuperscript{1} The management of outcomes assumes an organization is applying the philosophy of continuous quality improvement (CQI) and is assessing what works, what does not work and why.

A focus of outcome management is “outcome measurement” which answers the simple question, “Are we doing things right?” Several quotes summarize the outcome measurement philosophy:

\textsuperscript{1} Medical Dictionary for the Health Professions and Nursing © Farlex 2012
“If you can’t measure it, you can’t improve it.” - Peter Drucker

“In God we trust, all others must bring data.” - W. Edwards Deming

The dominant conceptual model that provides a framework for examining health services and evaluating quality of care is the Donabedian Model. It was developed by Avedis Donabedian, a physician and health services researcher at the University of Michigan, in 1966. The tenet of the framework is that quality of care is influenced by three factors: structure, process and outcomes (figure 2).

- **Structural measures** - Characteristics of a care setting, i.e. staffing ratios.
- **Process measures** - Measurement of interactions between the healthcare practitioner and residents or “what was done to the resident”.
- **Outcome measures** - Reflect the impact of the health care service or intervention on the health status of residents.

Organizations apply the Donabedian Model to achieve the overall goal of an improvement in quality of care by examining the relationship of structure, process and outcomes.

**THE ROOT CAUSE ANALYSIS PROCESS**

Root cause analysis (RCA) is one component of the quality management PSDA (plan, do, study, act) model for improvement. The objective of RCA is to investigate the cause of a problem and apply the following principles:

- Determine what happened or identify the cause of a problem;
- Determine why it happened; and
- Figure out what to do to reduce the likelihood that it will happen again.

Root cause analysis consists of six steps:

1. Organize the Team: who will conduct the investigation?
2. Define the Problem or Issue
3. Conduct Data Analysis: Collect and analyze the data
4. Determine Root Cause(s): Use "The 5 Whys" or fishbone diagram
5. Improvement Planning: Create solutions linking root cause with improvement activities, implement solution.
6. Evaluate Progress: Evaluate if the intervention is working

Although all steps are necessary, two key areas of focus include accurately defining the problem and gathering the appropriate data for analysis. Understanding the data to analyze and the methodology will assist in determining root cause.

USING RCA TO MANAGE OUTCOMES

Long-term care has some quality measures that are federally determined and others that are organization specific. It is critical to the success of an organization to understand the application of the RCA process to current quality measures. Following the RCA process, once the problem is defined the next important step is collecting and analyzing the data. The problem or issue will dictate the types of data necessary to identify a root cause. In this step, the organized team determines which structure and process measures might be linked to outcomes. Figure 3 illustrates the relationships between the structures, processes and outcomes for Falls Management.

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USING ANALYTICS TO DETERMINE THE ROOT CAUSE OF A PROBLEM

The electronic health record is a valuable tool in collecting and analyzing the structure, process and outcome measures associated with identified problems or issues. Each organization determines the measurements that will be monitored for the associated problem or issue. As stated earlier, problems can be defined as financial, clinical, or associated with satisfaction.

Business intelligence or analytics converts the numerous pieces of structured data, within an electronic health record, into meaningful information used for outcome management. This meaningful information is communicated through reports and dashboards in the form of frequencies, percentages, or other numerical values. The quality team completes Step 4 of the RCA process using this information as a guide. Once the root cause is determined, the team implements the new solutions. Analytics is used again in Step 6 to evaluate the success of the implemented interventions.

CONCLUSION

Having an effective outcome management process is the new standard by which LTC organizations are measured. Future healthcare partnerships are reliant upon the organization’s ability to demonstrate successful outcome management. Using technology to gather and analyze data is the most effective and successful approach to outcome management. Powerful Analytics, included as a component of a complete EHR solution, is the tool that will give providers a competitive advantage. Analytics provides information sought by partners within the integrated healthcare systems in an understandable and visually impactful way. Participants of Accountable Care Organizations value organizations that use information gathered through Analytics to affect the quality of care provided.