
Return on Safety
Medication Optimization




AmerisourceBergen®
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RETURN ON SAFETY: MEDICATION OPTIMIZATION

Introduction

Clinical knowledge grows continually with significant implications for medical technology, advanced pharmaceuticals and practice, but the influence of continuous change in the policy and financing environments result in uncertainty. Change in one area sets in motion trends and developments that provoke reactions and responses in other areas. Tracking change and translating it into meaningful information for others will remain one of the enduring responsibilities of the successful healthcare leader. AmerisourceBergen is focused on understanding industry trends and working with organizations to address associated challenges. A closer look at current trends:

Quality Trends

Improving the quality of American medical care is a powerful trend, reflecting the growing influence of consumerism. A study by the American Hospital Association focused on consumer expectations of the highest quality as one of the key drivers of twenty-first-century healthcare. Quality as defined by consumers includes not only the absence of medical errors, but also the patients' interactions with physicians, support staff, and technology and how the system deals with people.

Quality improvement can be worth millions of dollars in eliminated rework, waste, and complications resulting in a needed critical business strategy to address reliability of care delivery. Moody's Investor's Services (January 2008) released a comment explaining how it integrates hospitals' quality initiatives into a rating. Several characteristics of successful hospital quality strategies are listed, such as long-term commitment by the board of trustees, and a dedicated senior management team tasked with overseeing long-term strategy. High levels of physician and nurse buy-in and willingness among providers to adopt new practices and to alter the organizations' overall culture are also key attributes. High performing hospitals tend to be willing to re-assess programs mid-stream, identify and budget for hidden costs early in the process and "be accepting of a potential downturn in financial performance in the short-term due to increased expenses and capital expenditures."

Patient Safety Trends

Medication errors, adverse drug events, and sentinel events cost each healthcare system as much as one million dollars annually (Classon et al. 1997) A medical mistake is considered “an unintended act with potentially negative consequences for the patient, which would be judged wrong by skilled and knowledgeable peers, independent of whether the patient was actually harmed.”

Pharmacists and Nurses intercept nearly half of physician errors, before they reach the patient. There is not a comparable safety net for nurses; as a result 51% of the errors that actually reach the patient result from nursing activity. (Leape, et al., “Systems Analysis of Adverse Drug Events.” Nursing administration errors span the spectrum; wrong doses, wrong technique, and missed doses explain half of mistakes, while the remaining cover a broad spectrum of error types. The intersection between quality of care delivery and cost of care delivery is patient safety. Regulatory bodies and quality organizations are working together to identify best practices and drive standards to improve the quality and cost of care delivery. National Patient Safety Goals, Never Events, and Pay for Performance are examples of efforts to affect positive change. The implementation of medication process optimization will help organizations reduce their incidence of medication mistakes while reducing associated costs.

Clinical Outcomes and Patient Satisfaction Trends

Well managed organizations deliberately monitor patient satisfaction and outcomes internally as well as in the community. Patient satisfaction is a governance board strategy, focused on providing healthcare value and pro-actively creating outcomes by which patients and family members judge their care. Driving forces for patient satisfaction, management, and transparency include organizations like HealthGrades® and Leapfrog. Patient satisfaction, loyalty, and positive outcomes are critical for marketing and public relations. Creating a positive clinical outcome is providing excellence in patient value, which may be measured as the outcome achieved per dollar of cost compared to peers. The outcome of care delivery is closely linked with overall patient satisfaction and market share.

Pay for Performance Trends

Pay for Performance (P4P) initiatives encourage improvement in quality of care in the health care setting with the common goal of improving quality and avoiding unnecessary health care costs. P4P involves collaboration with health care providers and other stakeholders, to ensure that valid quality measures are used and that providers have support and the necessary health care tools to achieve actual improvement. P4P programs are evidence-based, which deliver higher patient quality outcomes with lowered costs in some instances resulting in overall better patient care and costs to hospitals decreased. P4P initiatives can be implemented in health care facilities such as physicians' offices, ambulatory care facilities, hospitals, nursing homes, home health care agencies and dialysis facilities and various other settings where patients receive their health care.

The Institute of Medicine (IOM) says that payments for care should be redesigned to encourage providers to make positive changes to their care processes. In response to this challenge, a group of employers, physicians, health plans, and patients have come together to create "Bridges to Excellence." Guided by three principles, its purpose is to create programs that will realign everyone's incentives around higher quality. These principles are:

1. Dedication to transforming care processes to reduce mistakes will require investments, for which purchasers should create incentives
2. Significant reductions in defects (misuse, under use, overuse) will reduce the waste and inefficiencies in the health care system today
3. Increased accountability and quality improvements will be encouraged by the release of comparative provider performance data, delivered to consumers in a compelling way

Starting in 2009, Medicare will not cover the costs of "preventable" conditions, mistakes, and infections resulting from a hospital stay. These new CMS rules are a result of the Deficit Reduction Act of 2005 and state that Medicare will not pay the treatment costs for secondary diagnosis unless they were present upon admission. According to the Consumer Union, more than 60% of the total national bill for treating hospital acquired infections is met by Medicare. Conditions that will no longer be covered by Medicare include mediastinitis after coronary artery bypass, decubitus ulcers, air embolism, falls, leaving foreign objects inside the patient during surgery, vascular catheter

associated infections, and certain catheter-associated urinary tract infections. These new rules are part of a strategy toward becoming a “more active purchaser of high quality care for Medicare beneficiaries.” According to a CDC report in October 2007, there are 19,000 people who die yearly from methicillin-resistant staphylococcus aureus (MRSA), which is not killed by a common class of antibiotic. 85% of these MRSA cases are in health-care institutions.

Organizations supporting P4P initiatives include: the National Quality Forum (NQF), The Joint Commission, the National Committee for Quality Assurance (NCQA), the Agency for Health Care Research and Quality (AHRQ), the American Medical Association (AMA), CMS and many other organizations.

Health Information Technology Trends

President Bush (State of the Union Address, January 2004) outlined a plan to ensure Americans have access to electronic health records within 10 years. The concept was supported by the fact that if better information technology were available, then such things as high medical costs, uncertain value in certain medicines and procedures, medication errors, variable quality, administrative inefficiencies and poor coordination all would be lessened if the health information technology system were interoperable with standards of use in medical care.

Health Information Technology (HIT) allows an organization comprehensive management of the medical information and ensures secure exchange of the information between health care consumers and health care providers. HIT can improve health care quality, help to minimize or possibly prevent medication errors, reduce health care costs due to removing inefficiencies and redundancies within the health care system and expand accessible and affordable health care to all. Health information technologies such as electronic medical records, barcode medication administration, computerized ordering of prescriptions and other decision support tools secured by authorized exchange of data would improve quality, reduce medication errors and prevent death.

Achieving this vision requires workflow process redesign to maximize the investment made in patient safety technology. Clinical workflow must be assessed and redefined to support best

practices targeted to eliminate wastes, errors, and inefficiencies in the care delivery process. Many times these inefficiencies lead to error prone work-arounds that can be compounded by the introduction of patient safety technology.

HIT must be a multi-disciplinary partnership based on accountability between the health care providers, patients, and consumers to support a positive outcome of care across the continuum.

Culture

Despite the prestige of the IOM and other quality organizations, many obstacles lie in the path of clinical processes and outcomes improvement. Lack of data, nationally recognized benchmarks, and analytical software are obvious problems. However, the largest hurdle is the acceptance and buy-in to change. Transformational change requires commitment and leadership from the senior management team. Patient safety and quality must be a part of the strategic mission and be embedded into the culture of the organization.

Solutions to Meet Challenges

AmerisourceBergen's CareRx Portfolio provides patient and consumer centric solutions, focused on medication management from the manufacturer to the patient bedside. The solution incorporates the six quality aims established by the IOM: Safety, Efficiency, Timeliness, Effectiveness, Efficacy, and Patient Centeredness. Lean/Six Sigma methodology and comparative benchmarking are core to the solution, addressing variability, cost, errors, wastes and quality in the value chain. AmerisourceBergen clinical resources focus on current formulary, clinical guidelines, order sets and pathway policies and compare to best practices and identify areas for improvement. Performance improvement is achieved through elimination of product, process and logistical waste, resulting in enhanced patient safety, service and quality levels.

One of the most critical elements of evaluating any of the potential patient safety solutions is to consider the multiple dependencies and interdependencies that will impact the implementation and delivery of this initiative. It is important to understand these dependencies and interdependencies prior to making any selection. For example, readable bar codes are necessary to utilize and realize

the return on investment in bar code medication administration. We understand and work with organizations to support a 100% safe environment by optimizing the formulary with unit dose bar code ready medications. This reduces the additional touch points required for manual packaging and bar code labeling. AmerisourceBergen professional services and technology supports the required packaging and labeling needs by utilizing Lean/Six Sigma principles to enhance safety and error-proofing. All processes and technologies come together to provide the foundation for a patient safe environment.

Regulatory and performance based solutions are central to the dynamic needs of the AmerisourceBergen client. Adoption of medication policies, processes, and technologies required to meet regulatory requirements and patient safety goals such as medication reconciliation, safe use of medications, hospital acquired infections, and other regulatory standards are critical.

Comparative benchmarking allows the identification and implementation of performance improvement, based on standards of excellence and best practices. By defining clinical and operational metrics for peer comparisons, we facilitate the understanding of variable results and changes needed to improve and sustain results achieved. Benchmarking tools are the foundation for creating the value chain from patient demand to medication administration. Performance goals are identified for the defined metrics along with reporting to monitor progress and quality outcomes.

The complex process of medication management poses significant opportunities for error and inefficiencies. The medication management process begins at the time the patient is admitted or enters the organization and includes medication ordering, transcription, clinical decision support, and dispensing; continues with the administering and documenting of medications given to patients; and includes posting charges, updating inventory, and replenishing stock.

Medication processes are addressed by looking at the individual steps and identifying those that add value and eliminating the rest. The implementation and sustainability of performance improvement opportunities are identified as a result of performance benchmarking and comparative analysis. AmerisourceBergen utilizes the Lean/Six Sigma methodology to speed decision making

and the deployment of change implementation and technology adoption. Decision-making processes have a substantial impact on improvement. The process begins with defining the value of specific processes, value stream and ideal state mapping. The result is increased quality, safety and efficacious care delivery.

Medication policy services assess current drug policy, compare to best practices, and implement change designed to more closely align institutional drug policy with those best practices. Ultimately, the goal is to reduce the variability in clinical practices that may compromise optimal patient outcomes, increase risk for medication errors, or increase the costs associated with delivery of care. A comprehensive evaluation of drug policy services includes assessment of formulary management, clinical practice guidelines, clinical pathways, standing order sets, CPOE, and compliance for regulatory standards.

Within formulary management, therapeutic substitution, contract optimization, and clinical drug protocols are assessed. The structure and function of institutional entities involved in drug policy is also important, including the Pharmacy & Therapeutics, Medical Executive, and Quality Improvement Committees. Pharmacist workflow as it relates to routine implementation of adopted clinical drug protocols and clinical practice guidelines are analyzed, both within the central pharmacy and in decentralized activities.

Included in the workflow analysis is the evaluation of clinical decision support resources and functionality. Measurement and reporting of patient outcomes, the impact of pharmacist clinical activities, and compliance with drug policy must be assessed. Clinical benchmarking tools are used to focus on clinical drug therapy outcomes; current medical literature; evidence-based clinical practice guidelines; and national standards of practice set by agencies and groups such as Leapfrog, AHRQ, Joint Commission, and CMS, etc.

Medication Error Consequences:

A medication error that results in an adverse drug event (ADE) is costly. More than 40 potentially serious medication errors occur every day in a typical 300 patient organization. The increased hospital cost of treating ADE's averages 8,750 per incident according to the IOM July 2006 report.

Death and disability resulting from medication errors can result in significant legal costs. In 2000, the median compensation award for medication errors was \$668,000 per award. Investment in medication-safety systems may be justified in terms of risk management and legal liability. Catastrophic events with large damage awards may grab the headlines, but they may be eclipsed by the incremental costs that are being incurred every day in healthcare because of ADE's. Many other factors may cost significantly more than the catastrophic event itself, such as extended patient stays and additional treatments, therapies, and medications needed to overcome the effect of the medication error.

Justification Challenge

Ensuring that medication errors do not occur is the right thing to do. However, because the cost of implementing patient safety solutions – error reduction can run into millions of dollars – return on investment (ROI) must be addressed. The ROI consideration starts with the volume and cost of medication errors, but ultimately is tied to the organization's mission and future survival.

Hospitals are challenged to capture charges for medications, medical supplies and clinical services for patients in an accurate, timely manner. Point-of-care safety systems can help providers improve the accuracy of medication charge capture by providing documentation of actual administration of medication, known as the electronic medication administration record (e-MAR). If fully used, this system potentially can accelerate invoicing, reduce billing disputes and avoid government charges of fraudulent billing, and improve inventory and supply chain management. High quality and efficiency can put hospitals in a better future bargaining position with payers, compared with other hospitals and also can enhance patient loyalty and employee satisfaction.

In addition to the direct patient care savings, implementing a safety system at the point of care can result in less obvious benefits, such as increased satisfaction of nurses in their daily work, which reduces nursing turnover – a growing issue in healthcare. The technology reduces the paperwork burden, allowing nurses and pharmacists more time to interact with their patient and provide high quality care.

There is also a public relations consideration on both community and personal levels. The news media has made the public keenly aware of patient safety and medical error issues. A medication “safety system” is a visible sign of the safe clinical operation of the hospital.

How best to define patient safety measures for an organization based on its current operational and IT environment is the single greatest challenge. The identification of all patient safety initiatives, will lead executive, medical, and clinical decision makers to find the best path to implement these solutions. There is a level of complexity in translating the requirements for an automated patient safety solution and the actual model that represents how the implemented solution will integrate and co-exist with other existing strategies for technology systems.

Computerized physician order entry (CPOE) and bar code medication administration (BCMA) systems are two clinical point of care solutions that play a key role in addressing patient safety. Workflow process must be addressed using error-proofing techniques as part of implementation and utilization of the patient safety solution.

Roadmap

As part of the process of determining how best to undertake such a patient safety initiative, healthcare organizations are re-thinking the importance of the ROI. If the need is imminent and the focus is on patient care and patient safety initiatives, is a traditional ROI required? Can we base the evaluation on a Return on Safety? This change toward a more strategic viewpoint and focus can and will create a cultural shift in how clinical investment decisions are traditionally moving beyond the previous cost based model.