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Lloyd Wolf

Children's National
Medical Center treats
more than 350,000 patients
annually from all over the world.

Lollipops for **EXCELLENCE**

BY RYAN BURGE

A pediatric hospital's quality program

QUALITY PRINCIPLES ARE WELL-RECOGNIZED IN TYPICAL manufacturing companies, but what about health care? There are many opportunities for hospitals to improve the process of delivering patient care just as a manufacturer improves a mechanical process, and the tools and techniques in achieving a high level of quality include some of the most basic quality and Six Sigma methods. When using these tools to reduce a patient's length of stay in the hospital or providing a higher quality of care, these basic tools are critical to patient health, satisfaction and hospital sustainability.

There are many challenges a hospital or health care company could face when bringing about change in health care processes and services. Staff and physician resistance to change, communication systems, patient quality and even insurance reimbursement are all factors that could affect the introduction of Six Sigma in health care services. However, it is important that quality and process improvements are implemented properly in order to keep up with constant changes in equipment design and improvements in medicine. Numerous studies have shown that roughly 60 percent of Six Sigma improvement efforts fail; therefore, the proper planning, strategies, human capital management, implementation and process control is crucial to success in launching a Six Sigma effort.

Children's National Medical Center (CNMC) in Washington, D.C., one of the top pediatric hospitals in the nation, exercises quality principles in many areas of practice — from W. Edwards Deming's plan-do-check-act cycle to rapid cycle improvement to the use of a failure modes and effects analysis. These tools, along with many others, are used to promote CNMC's quality model in all aspects of pediatric care. CNMC's quality model is based on the Institute of Medicine's six aims: safety, effectiveness, efficiency, timeliness, family-centered focus and equity. With these aims come a list of ingredients that define their quality mixture:

- Organizational culture
- Leadership driven
- All levels of staff involved
- Medical staff must be engaged
- Outcomes aligned with incentives
- Accountability
- Right quality structure
- Inter- and intradepartmental partnerships

With many organizations and quality models comes resistance to change; however, CNMC uses a detailed and effective quality model that involves all levels of the organizational structure, and with little resistance to changing or improving

quality practices and processes. One critical step in improving quality and implementing an effective model is full support and involvement at all levels of the organizational hierarchy. Their quality initiative strategically places quality and safety committees in several important locations within the hospital structure, injecting quality principles inside care practices and management decision making. This method promotes physician and staff involvement.

CNMC has also established several quality and clinical effectiveness programs that introduce quality tools in many areas of patient care, including programs that focus on safety, clinical resource management, family-centered care, research and development, quality management and improvement, and care-delivery teams. Health care practices and products constantly evolve and improve over time, and programs must flex along with changing products and methods of improving patient health and safety. Six quality and clinical effectiveness programs and the associated practices and tools make CNMC one of the top hospitals in the nation regarding quality.

Safety. Implementing industry best practices in technology and establishing quality and safety standards helps the hospital attain a high level of safe patient care.

Clinical resource management. CNMC uses benchmarking to evaluate its patient processes and care against industry best practices, using this information to improve resource management. Balancing quality with cost, CNMC's clinical resource management program focuses on improving care coordination — or the admission, discharge and transfer of patients within the health care system. Data is collected to track changes and problems in the hospital systems or identify payer trends. Through analysis and use of the data, CNMC has seen a significant reduction in insurance denials and has established staff accountability.

Family-centered care. It is critical for a hospital to include the patient's family in making key decisions surrounding the care. CNMC is able to collect feedback based on its approach to care and can use this information to improve existing quality programs and overall satisfaction. The voice of the customer — in this case, the patient and family — is absolutely critical to the mission of the hospital in saving lives and healing patients.

Research and development. CNMC collects administrative processing data to evaluate patient outcomes. This data, along with analysis, is presented in its numerous quality-related abstracts and publications and is used to design new quality programs to improve patient care.

Quality management and improvement. Process improvement is dire for a hospital to maintain a high level of quality with rapidly evolving health problems and patient in-

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flows. Quality principles and tools impact CNMC programs, operations, policies and procedures and help them meet and exceed accreditation and regulatory standards.

Care-delivery teams. CNMC care-delivery teams are multidisciplinary teams at the point of service for inpatient/outpatient units. These micro-system teams review unit-specific clinical practice by using data to identify areas for improvement and simply improve care at the point of service. These teams also educate unit staff about quality and improving clinical practices. In addition to improving outcomes, the teams have been instrumental in promoting communication and teamwork at the point of care. The innovations and lessons learned through team involvement are reviewed at the organizational Care Delivery Forum, an internal forum for quality improvement focused at the grass roots. These teams use a quality matrix to identify new quality improvement projects cutting across departments.

Reducing patient length of stay

Many of us have experienced lengthy stays in a hospital, and it is not an enjoyable and cost-efficient way to spend your time when quality care can be provided at the same standard in a much shorter time period. CNMC is a leader in reducing a patient's length of stay by almost 20 percent across all diagnoses over the past several years. This has been achieved through implementing several evidence-based clinical pathways, an aggressive case management program, opening a short stay unit and through benchmarking its procedures and operations to identify opportunities for improvement. By reducing the length of stay from nearly seven days to well under six, costs are reduced for the patients and their families (potentially by several thousand dollars), and the patient simply spends less time confined to a hospital room.

This is just one example of a successful quality improvement initiative; however, there are many opportunities to reduce costs, improve patient care and maximize revenue. Health care organizations are beginning to identify areas of improvement within the industry, understand all factors and potential successes involved in a quality or Six Sigma improvement effort and see a high level of patient satisfaction as a result of project success.

Factors involved with successful Six Sigma projects in health care organizations include:

1. Establishing full physician and staff support and effective communication
2. Identifying problem areas from patient surveys, complaints and equipment failures

Children's National Medical Center's clinical programs are organized in the Center of Excellence Model that incorporates seven centers specializing in disorders, disease and surgical care.



3. Brainstorming and selecting the most beneficial, cost-effective, achievable project
4. Establishing teams with various backgrounds in order to promote creativity
5. Training physicians and staff in quality principles
6. Establishing clear goals and requirements (i.e., return-on-investment)
7. Delegating responsibilities and stressing accountability
8. Identifying the proper quality of Six Sigma techniques and tools to use
9. Setting objectives and metrics in order to track, measure and analyze data
10. Rewarding successes and achievements

Aligning quality and the organization's mission

Organizations that have implemented Six Sigma and large quality structures understand that great successes do not typically come overnight or with relative ease. Health care is a perfect environment for quality and Six Sigma improvement projects, especially due to the extreme importance of reducing defects and waste that could include defective surgical instruments, problems with care equipment and non-value-added activities within health care processes.

In the case of CNMC, they consistently use quality to meet and exceed patient expectations. Its mission statement includes

Children's is currently 11th in the nation on U.S. News & World Report's list of America's best pediatric institutions.



three main missions where quality services can easily be seen.

Improve health outcomes for children regionally, nationally and internationally. CNMC's mission to improve health outcomes must include a high level of continuous quality improvement. Without improving existing medical practices and patient care, the organization stagnates and fails to provide the true quality services required of a hospital.

Be a leader in creating innovative solutions to pediatric health care problems. The second mission of creating innovative solutions to challenging problems can be accomplished through creative brainstorming sessions, continuous process improvement and the implementation of quality tools and techniques. The level of creativity is endless when dealing with Six Sigma and quality models.

Excel in care, advocacy, research and education to meet the unique needs of children, adolescents and their families. CNMC continuously uses its quality model and tools in increasing patient satisfaction and reducing length of stay and costs associated with providing care. It is meeting the needs of the patients, their families and the community through its quality practices, which establishes the facility as a role model for other health care organizations nationwide.

The Institute for Health Care Improvement has a complementary quality model to CNMC; however, it asks three simple questions when dealing with problems and potential improvement projects. Those include: What are we trying to accom-

plish? How will we know that a change is an improvement? What changes can we make that will result in improvement?

These simple questions used in conjunction with Deming's PDCA/PDSA cycle allow the hospital or organization a chance to understand problem areas, collect and measure important data, analyze the data, implement any desirable and verifiable changes, and continuously repeat the cycle to improve process efficiency. Even though the method differs slightly, the goal remains the same: quality.

Voice of the customer

Patient and family satisfaction is important to CNMC. As part of a corporate goal, leaders at CNMC set out to improve patient satisfaction through targeting select clinical service indicators focused on improving communication and care for the patient. They implemented the following strategies that would lead to an increase in patient satisfaction:

- **Leaving physician business cards for families.** Although this tactic seems simple, it is extremely effective and reduces patient and family dissatisfaction through physician availability and by providing a direct contact pathway. Not only is it frustrating when not being able to communicate with suppliers as a product manufacturer or receive a quick response from a customer service department, but it is just as critical to receive quick feedback from physicians and hospitals regarding one's care, and to receive that feedback without navigating multiple persons.
- **Setting expectations on rounding times.** Have you ever laid in a hospital bed waiting for the physician so that you could ask an important question, yet, no one could tell you when she would make her rounds and actually visit your room? And later you were frustrated to learn that she stopped by and you were asleep? Setting expectations on actual physician rounding times is important for the efficient flow of communication between patient and physician or buyer and seller. By setting and meeting those expectations, CNMC has improved patient satisfaction significantly.
- **Establishing the availability of physicians in the afternoon for families and using family-centered rounds on all units.** These are simple, yet effective strategies of setting specific times aside for physicians to visit with families regarding patients and the hospital's level of care. Again, it is here that expectations are met and satisfaction improves as families are able to spend quality time discussing important topics on patient care and health issues. In incrementally improving care practices, CNMC routinely requests that patients and families respond to one very important

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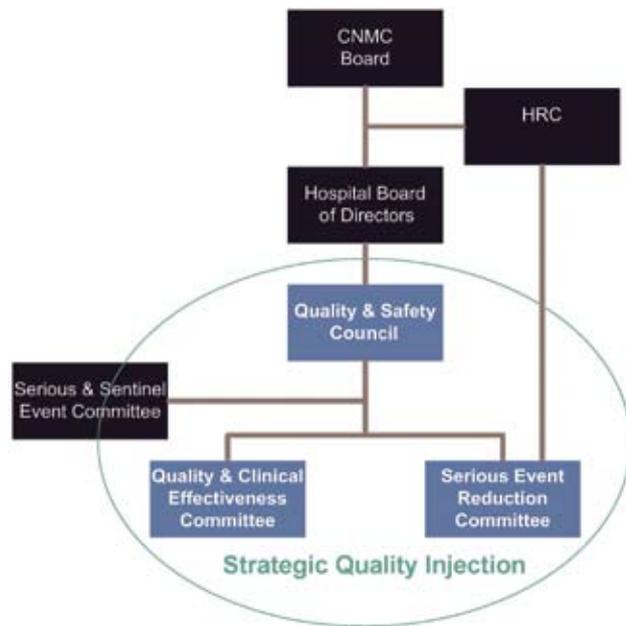


Figure 1. Committees with individual expertise can divide responsibilities and then come together to benchmark.

question: Were doctors available to answer your questions or concerns when you needed them?

- **Consistent rounding by nursing on all inpatient units.** Nursing at CNMC implemented a consistent rounding time on all inpatient units. During hourly rounds (and more frequent if needed), the patient and family could rely on having a nurse come by their room to ensure they had their needs met. This hourly stop also includes asking the patient if he is experiencing any pain, allowing the nurse to intervene quickly as needed.
- **Establishing transparency on the intranet.** Transparency is important when dealing with a patient's health. CNMC consistently strives to improve transparency internally and externally through effective communication and clear information for its patients and staff. CNMC posted its patient satisfaction results on the intranet for the key indicators it was tracking. This is an important step toward ensuring that all staff in the organization was aligned with the priorities set for their patients and families.

CNMC quality strategies in improving clinical service excellence led to an increase in quality care and patient/family satisfaction. They appreciated an improvement of more than 14 percent in physician availability; a 15 percent improvement in waiting for a response to a call button and a 9 percent improvement in pain management.

Lessons learned

Success does not come easy, and CNMC has identified several important points to share with the health care community and other industries that strive for high quality programs and process improvements. Many of the quality tools that CNMC uses are applicable to other industries and their general strategies are applicable in almost all industries. Simply, setting customer satisfaction as the goal of any quality improvement program or Six Sigma project will help you prioritize your projects and areas of needed improvement. Below is a list of lessons learned, but generalized for all industries. The importance with this case study and information is that it can be applied elsewhere. All that is needed is a little creativity and motivation to implement similar strategies and programs successfully.

1. Leaders must set the priorities and listen to front-line providers for input.
2. Collaboration at all levels is imperative.
3. Front-line staff must be engaged to make the change.
4. Incentives must be aligned with outcomes.
5. Data must drive the process.
6. Transparency is necessary.
7. Quality must be meaningful and tangible to the provider.

Quality in health care is extremely important and encompasses more than just providing effective, efficient and safe care, but it is also focused on providing a good experience as well. By implementing quality methods in all areas, as the Children's National Medical Center has and continues to do, costs are reduced (both for the patient and for the hospital), and the organization is highly sustainable.

It is important for health care organizations and any industries to understand how important and cost-effective employing strategies, such as quality methods and Six Sigma programs, can truly be. Sometimes, it takes actual results to convince management to implement quality programs; however, at CNMC it has become part of their culture and a way of doing business. CNMC is an example of how a health care organization should construct, implement and control quality programs to achieve the best possible outcomes for its patients and families. ~

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