Brown County Hospital

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Quality Tracking in Critical Access Hospitals

Introduction:

Within the world of health care there is a constant and almost obsessive drive to achieve quality health care. Medication errors, infection rates, financial indicators; these are all examples of how every area involved within the health care spectrum is working towards perfection. In many facilities, this tracking and analyzing takes places within the quality committee of the hospital to determine where the opportunities are. The quality committee's job is to essentially go through the data, discerning the good from the bad, and assist various departments and groups to find ways to improve quality measures.

While this process is mostly straightforward and generally understood in health care facilities, it is how we get to the point of plan, do, study, and act (PDSA) that sets facilities apart. This can be especially true in facilities with limited resources, such as Critical Access Hospitals. In these hospitals, financials, staffing, and workloads can all influence not only how well quality of care is being delivered, but even more so how it is being tracked and adjusted.

The following application will outline and detail the process one Critical Access Hospital used to revamped and streamline their paper process, to an up-to-date, staff engaged, computer base process that has not only increased quality of care through measurable attributes but has also decreased the time from problem discovery to problem correction.

Leadership/Planning:

The process of even proposing a major overhaul to a long used system within any organization can be a difficult. The idea of change and "something new" can instill feelings of uncertainty in all involved. In order to overcome these unknowns Brown County Hospital (BCH) relies on two major influences to encourage and sustain change for the better; strong hospital and clinic leadership, and our mission, vision and values. Brown County Hospital has and continues to use hospital and clinical leadership in order to make the best decisions is regards to patient care and outcomes. These leaders come from various backgrounds with a wealth of knowledge.

The case of re-configuring our Quality program was no exception. Several members; providers, nurses, ancillary staff, clinic, and office staff met several times in order to determine what was the best way to reconfigure the Quality Program. During the course of the meeting, the mission, vision, and values of BCH were used to determine where this path would take us.

Mission Statement: "Brown County Hospital is dedicated to providing our patients and communities with the highest quality of comprehensive and compassionate healthcare." Quite simply in our mission statement, the idea and goal of quality healthcare is at the forefront. To do this, facilities such as ours, must be able constantly to identify areas of weakness, adjust, and track and trend until a solution is reached.

Vision Statement: "Brown County Hospital will be an innovator and advocate in rural healthcare, provide exceptional, patient-centered care and be the preferred healthcare provider and employer in North Central Nebraska." Within this statement innovation within health care is mentioned. One of the major changes within healthcare recently has been the transfer from paper to computer based documentation. Computers allow for multiple parties to access the

same data, and make changes and additions. This too was the goal for our quality program. Not only do we want everyone in the facility to be aware of our quality initiatives, but also to be able to track the data in real time.

Values*: Integrity* – In all we say and do; *Excellence* – Striving for the highest standard; *Compassion* – Genuine care for all those we serve; and *Unity* – collaborating with all to achieve quality healthcare. Within the values, principal beliefs such as striving for excellence, and collaboration with others helped to drive the process of our quality program. The goal of the quality process change was to not only speed up the current process, but to take that time gap and directly apply to excellent patient care, better outcomes, and overall an increase in quality in healthcare.

The final step in the planning was determining if and how this all fit into our strategic plan. Within our plan, several goals rely on the ability to create a process change and determine its effect; then adjusting that change until it reached its desired effect. It was determined in order to track this and to keep it in line with our strategic plan, a new, more streamlined system would have to be developed. The idea of creating this ultra-effective quality program quickly became not only a need due to its ability to assist and track other strategic goals, but the program itself became a strategic goal.

<u>Process of Identifying Needs:</u>

The initiative to create a new and better Quality Program began out of necessity. It was very evident with the original quality program, that while it satisfied the needs of CMS regulations, it lacked in many areas. An initial quality study of the quality program highlighted several areas of opportunity. On average departments were updating their QA's only every 6

months. The paper method was disjointed as each department was responsible to hold their QA until an update was completed, then the paper was transferred to the QA committee for review, then back to the department. Perhaps most importantly, coordination of quality events and transparency of the events with all staff was not there. Many times within the facility, multiple departments would be working on very similar QA's and have no idea due to the lack of centralized reporting.

These problems were identified by the Quality Committee as potential areas of improvement along with the increase in patient safety and facility communication. Working in close coordination with the Administrative Leadership Team, it was soon decided to move into the steps of active process improvement.

Process Improvement Method:

As the process began to come together, the methodology and individuals needed to help facilitate the change were quickly identified. As previously mentioned, the Quality Committee would be the driving force during the process. The Quality Committee would be working closely with the Administrative Leadership Team and both groups would be updating the Medical Staff and Hospital Board as the process progressed.

PDSA

-Plan: The initial plan was to review alternative methods to document and track our quality program with all quality initiatives. The major decision factors would be time from start of a quality process until finish, time spent on working on quality studies, and time from initial presentation of the quality study to the quality committee to revisit.

-Do: The initial research was conducted both internally and externally. The goal was to determine if any products were even available to track quality studies. Upon initial review, there were several products and programs that could work for our facility. We then furthered our study and looked internally to see if we had the ability to make the transition without any external programs. Our study found two options; Excel and Strategic Quality Support System (SQSS). While excel is a blank canvas and completely customizable, it quickly become apparent that the build and upkeep of such a build would be a major time commitment.

The SQSS program is a contracted (purchased) service and not customizable. It was initially brought into the facility as a way to track daily tasks and for event reporting purposes. However, with review by the Quality Committee, it was determined that the functionally that would be needed for quality tracking was there. Within the SQSS software system there is a completely pre-built quality template section, allowing for standardized reports and instant update to all quality studies.

-Study: The initial time study was complete reviewing of the original paper version focusing on the average overall length of QA, the average time to a revisit of that QA, and total time spent on a quality study. A total of 40 separate Quality Studies from over 15 departments were reviewed. The studies, on average, took over 18 months to complete (longest 36 months, shortest 3 months). The average time between a Quality Study being presented to the Quality Committee and the follow up to presentation was almost 6 months. This method was then used for Quality Studies within SQSS, which had an average 1 month follow up and 8-month average to completion. The time saving was very evident.

A time study was also completed on each quality study. On average, each quality study took about 23 minutes for each manager to finish. This time was devoted to typing out the quality study and building the charts and graphs for visual representation. Data collect time was removed from this figure as it would be the same for both methods. The SQSS time study revealed an average time of 4 minutes. This time savings of 19 minutes per study was significant.

Through these studies not only was it determined that time could be saved, but another, less apparent issue was discovered, transparency. A major issue with the original quality program was the lack of communication between the various departments and the coordination of QA's. Due to the multiple steps required to enter and monitor a quality study and lack of coordinator and tracking, several times similar studies were going on at the same time without knowledge of the other study. The SQSS system allows all managers and involved staff to see all quality studies.

-Act: After review of the data and processes were complete, it was determined by the Quality Committee to move forward with the complete implementation of using SQSS software to house the Quality program. We would run both the old version of quality (paper) and the potential new version (SQSS) software and compare the times.

Results:

The results of the Quality Program change were staggering. Overall time from start to completion dropped from 18 months to 8 months (over a 50% time decrease). Another major initial benefit to the new quality process was the decrease in average time between a Quality

Study being presented to the Quality Committee and the follow up to presentation. With the new Quality process within SQSS, staff are required to have their QA's updated monthly. This means quality studies are reviewed by quality every month as compared to previously taking on average 6 months for study to be presented again in front of the quality committee.

The amount of time spent by each individual on their quality study also significantly decreased. Data collection time was removed as it is constant regardless if the old paper version or new computer version is used. However the time spent typing and building visuals plummeted. With the old version, the staff took about 23 minutes to type and build visuals. The new SQSS drops that time spent to approximately 4 minutes a study. With pre-built, color-coding and graphing technology, the time spent in excel building is done instantly by the system. For a point of reference, on average a total of 130 studies are being actively worked on monthly. With the reduction of 19 minutes for preparation time per study. Using this figure extrapolated over 130 studies, 2,470 minutes or 41 hours of work were saved every month.

Financially this also has major effects. For example, the nursing department is responsible for, on average, about 40 quality studies. Using the previous data that is 760 minutes or over 12 hours being saved per month. Based on a new RN's wage, this saves the facility over $300 per month, or over $3,800 annually. This is just in nursing alone.

While reducing time from start to finish and transparency are all very important factors within a quality program, it is the actual end result of each individual quality study and how it has impacted the staff, patients, and facility which is the most important. Reviewing the data,

there was no real way to quantify this measure into one cumulative number. However below is an example of some quality studies that have been completed due to the new process changes.

Blood Pressure Education and Prevention- A quality study completed by the specialty clinic staff identified an abnormally large percentage of the population of Brown County having elevated blood pressure. This led to new educational pamphlets, new policies to educate and document, new documentation within the medical record and standardized care for the patient based on their vital signs. The final outcomes to this quality study are still being tracked, however initial results are showing an increased compliance by high risk patients.

Orders Tracking- This quality study completed by nursing monitored orders being entered by the providers within the new electronic health record. As with many new processes and changes, there was room for improvement, the implementation of electronic health records and providers entering orders into these records it was different. The study helped to create a baseline for the providers, who with education, tracking, changing of order entry process, and policy changes, were able to increase their order entry to over 98% for all patients in the facility.

Dictation Completion- The medical records department completed a quality study monitoring timely completion and submission of visit dictation completion. With the initial portion of the study, it was found there was a major issue. Through education, tracking, and process adaptation, incomplete timely dictation fell from over 20% to just under 3%.

While these three studies only represent a small portion of the studies, they do represent major process changes that affect patient outcomes and safety. With the new quality process and SQSS system, these three quality studies took on average less than 10 months to complete. Also with the increased transparency within the system, the education learned from these studies were easily passed on to other areas. For example, the blood pressure monitoring algorithm used to determine how to intervene with hypertensive patients is used now also used by the hospital and the family clinic. This was possible due to the transparency within the system and structure of the quality program based within the SQSS computer application.

Lessons Learned, Replicability, Sustainability

Over the last 2 years, Brown County Hospital has continued the initial quality process change. The process has continued to grow and evolve and more staff become comfortable with the procedure and the software. The process has also moved out from the managers to the front line staff. Now all nursing staff, along with the majority of office staff are actively involved in their own quality studies. As of today, there are over a 130 active quality studies being completed at Brown County Hospital. These studies are updated monthly and continue to push and drive the Hospital.

Over the entire process we have learned just how involved a process change can be. While we did use a controlled pace and slowly implemented the process, updating the staff and open communication were key to the changes. Even with the small changes and updates, it was important that everyone involved was up to date.

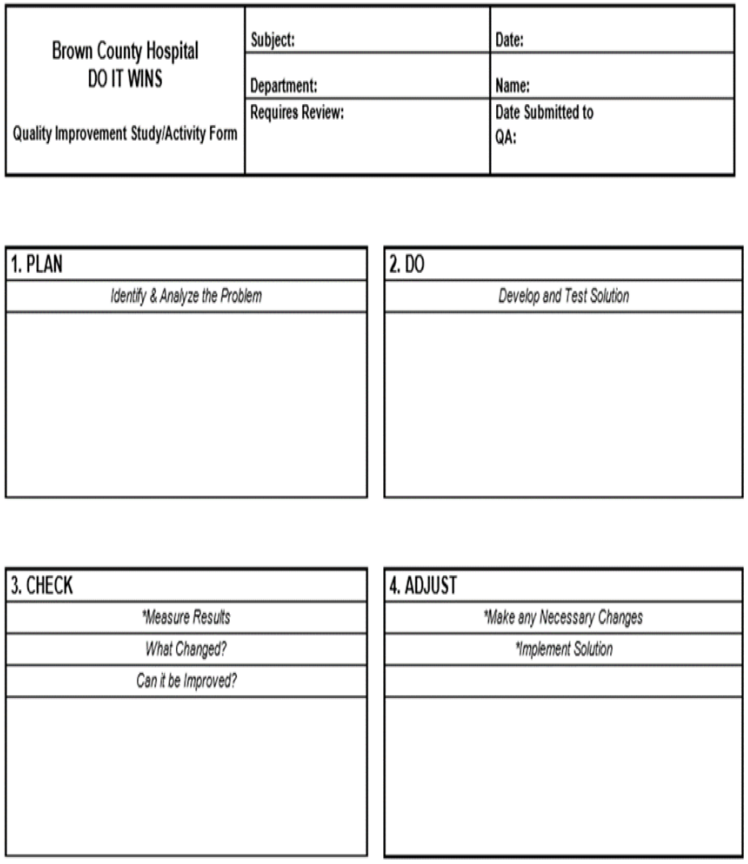
Another major piece to successfully implementation was buy in from all involved. Because of the pace we used, along with the open communication, staff were able to see how the new program would work, and more importantly for them, how the new program would be more effective and less time restraining. We could have potentially sped the process up by segregating the departments out and having education session for each department, but overall the outcome was what we intended.

As for replicability; it is absolutely there. We use same, yet much more condensed version when onboarding new employees. They are now able to leave orientation and have a working knowledge of the quality program and how it works. Because of the consistent nature of the quality program, once the basics are understood, a manager can develop their specific studies as much as they want and are encouraged to do so

For over two the quality program has sustained this major change and has continued to move forward. While every process needs to be evaluated and re-evaluated, the basic structure of the new quality program is firmly fixed in Brown County Hospital. As we continue to move forward, the quality program will continue to grow and improve upon itself.

Supporting Documentation:

Old Paper Version



Brown County Hospital DO IT WINS Quality Improvement Study/Activity Form	Subject: Department: Requires Review:	Date: Name: Date Submitted to QA:

1. PLAN	2. DO
Identify & Analyze the Problem	*Develop and Test Solution*

3. CHECK	4. ADJUST
**Measure Results*	**Make any Necessary Changes*
What Changed?	**Implement Solution*
Can it be Improved?	

This is an example of the Paper Method prior to implementation of new computer process

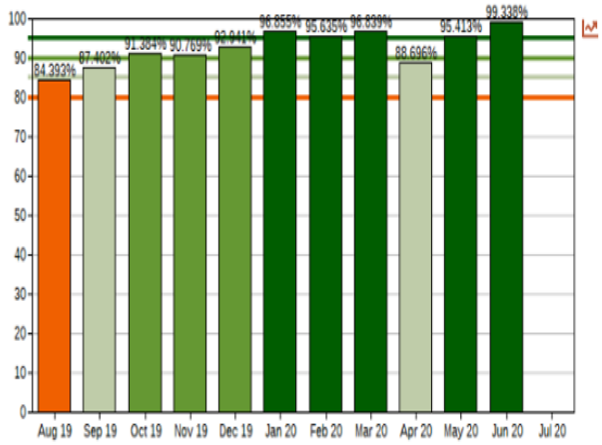
Many Manual Processes (Typing, Building Graphs and Charts)

Took extended time to complete Quality Studies

Overall the Process lacked coordination and transparency

New Computer (SQSS) Version

Performance Measure / QI Initiative	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020
CPOE (Floor) (hide chart, hide history)	P, D, S 84.39%	D, S 87.40%	D, S 91.38%	D, S 90.77%	S 92.94%	S 96.86%	S 95.64%	S 96.84%	D, S 88.70%	S 95.41%	S 99.34%	



84.39% (146 / 173) **August 2019**

Plan, Do, Study

Better than last month. Vast majority of TO/VO orders are after hours. Need to find a way to get providers to enter in orders, if possible, before leaving for the day. Will run audit on nursing as well. Education to go to nursing with protocol orders, still sending them to provider.

QAC: Continue to monitor, Continue to educate staff and med staff

87.40% (111 / 127) **September 2019**

Do, Study

Of the 127 orders entered, 111 were entered by providers, or were backed by policy to be entered by other staff. Of the 16 not correct, 3 were verbal orders, 4 were telephone orders, and 9 were written/routine which were not covered in the policy. We are now tracking individual nurses as well as the providers

QAC: Continue to monitor.

After data is entered, this is the new tracking screen

Has percentages at the top

Pre-Built Bar or Line Graphs

Notes along with months allow the Quality Committee to follow process more complete