Commentary

Weathering the changes in the obstetric climate

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We are all aware of the increased international pressures to reduce cost and improve patient quality/ safety in Obstetrics. Healthcare is 18% of the USA GDP and is a most prominent target to reduce personal and government overall costs. It is a business and structured business improvement models need to be implemented in healthcare in order to improve our capabilities and satisfy our goals. Latest data shows there are 400,000 preventable adverse outcomes in hospitals. The changing demographics and increased demands for improved healthcare makes changes more critical than ever before.

However, we recognize Obstetrics is quite complex: it occasionally renders acute care and deals with many issues (including two patients) which are not found in any of the hospital departments. There is far less written about use of these methodologies in Obstetrics. Healthcare generally fails to realize we are currently organizing waste (muda). Thus, health care is behind in recruiting established business improvement methods to improve operational processes, reduce waste, and empower staff and providers enhancing collaboration; all challenges to reducing cost and improving quality.

You must standardize processes because variance perpetuates waste. Business process improvement adapted from the Toyota Production System after World War II can assist informed leadership to initiate and continuously improve the staff, process and patient experience and safety.[1] These business methodologies have been utilized in the Intensive Care Unit, Emergency Department, and Laboratory services with published successes. These are services which generally deal with chronic conditions that generate costs and profits exceeding Obstetrics.

Obstetrics deals with 2 physiologically normal patients, but recent evidence indicates rises in maternal mortality and failure to arrest premature labor and/or reduce the incidence of cerebral palsy. These outcomes rest in an environment of a national 32% cesarean section rate which I believe is a prime cause of the increased maternal mortality. Pressure to improve continuous flow is increased due to scheduling and increased inductions.

In the last decade Obstetric Services from academic and large insurance company services have published peer- reviewed examples of process changes that appear to contribute to continuous improvement and enhanced patient safety. However, this is just the beginning and all services should look closely at implementing waste elimination and standardization (decreased variance) of processes while challenging the current culture to improve patient safety and adding value to the customer. The staff and providers are also customers in the flow process, but we may call them stakeholders. The outcome is a lagging indicator. Management should focus on the leading indicators of input and processes to reduce many of our adverse outcomes.

A few broad categories aiding us to define, manage, and analyze waste in a service process include:

a. People (the first group we erroneously blame while it is usually an additional process problem we don't usually consider)

b. Method

c. Measurement

d. Transportation

e. Motion

f. Skills

g. Waiting

h. Over processing

i. Defects

Change is always difficult and chaotic. Resistance to change is a given. Regulators, the Affordable Care Act. The Commission, hospital systems and insurance companies are requiring healthcare to move from volume to value. We are beginning to witness a burgeoning business in health care which addresses cost and waste through both quantitative and qualitative analyses. The key is to develop an understanding of the goals and process changes required of the "TEAM" (Crew). This calls for Total Employee Involvement (TEI) and the team sees benefit in the change process. This is the building block resulting in coping and initiating the cultural change. The ubiquitous merger and acquisitions of hospital and insurance companies are worrisome and demand of the healthcare team alterations in care which many may find unacceptable. Usually the real reasons for these massive changes for profitability are not transparent and providers become angry and incorrectly blame their healthcare leaders of their department. Thus, it is most important to communicate the reasons for the changes and from the bottom up determine methods to best acclimate and improve the methods to improve care in the face of these changes.

Due to the inherent nature of the obstetric organization neither Lean Six/Sigma or Operational Research alone may provide the tools required to achieve stated objectives. There are many burdens to full implementation of these programs and solutions and a few suggestions to facilitate the process will be described in initially addressing purpose, people and process.

Management

The Management of the hospital /system should be engaged and committed to achieving realistic goals for the service. Often times management at the highest levels does not understand the voice of the customer (VOC) and the voice of the process (VOP). A champion in the management, such as a Chief Medical Officer, should take a waste walk and follow the path of the patient (a GEMBA) as generally most high-level managers are not Obstetricians and Gynecologists. They should recognize that reducing waste and enhancing standardization will decrease costs while improving patient satisfaction. They should grasp the serious rework and defects of the current electronic medical record. As attributed to Woody Allen:"80% of success is due to being there". Walking the GEMBA by management, leadership of the hospital including the Board of Directors will open many eyes and recognize the need for change from the current process and breakdown silos. It is a time to learn the unknown's unknown.

Management's conversion will only occur with active involvement in the process of identifying waste, variation and constraints. As current medical processes have estimated to have 50% waste (anything that does not add value) there is ample opportunity to refine current processes. The opportunities are found from the bottom up, not from the top down.

Communication and professionalism

Healthcare organizations can learn from their mistakes if their staff members respect each other, keep failure prevention at the front of their minds and are encouraged to report failures. These three rules will improve patients' health and bring them into a reliable quality system. This emphasizes the need for enhanced professionalism and communication to enable continuous flow in the process. In my opinion, changing the culture, enhancing team empowerment, and establishing the added value to each member are most important. Nurses need someone to watch their backs if they have issues with other internal stakeholders in the process. Stress leads to impaired judgment. Failure of any methodology to improve process is usually due to a breakdown in the team (addressing human behavior).Hold all meetings with both providers and core staff attending to improve communication and open discussion of problems. This improves continuous flow of information, particularly at handoffs. Overall stakeholder involvement and empowerment has a very positive effect on morale, rejuvenates interest in positive change, and reciprocation. Cialdini's book INFLUENCE is a wonderful resource for affecting culture and individual action and reaction.

Experienced methods

Recognize that even getting to the beginning of the change requires understanding the current processes and the ability to create an analysis of same. Before we begin an improvement implementation process we want to find what is not currently adding value due to the element(s) to improve or remove. It takes talent and training in one of the several methodologies to improve healthcare. If you google Lean, Six Sigma, LeanSix Sigma (LSS), ISO9000, IHI and many more you will find overwhelming numbers of methodologies. The LSS methodologies have generally reported success in streamlining operation and improving patient and staff satisfaction.

Brainstorming

A first defect (waste) will be brought to the surface by structured brainstorming with all stake holders. A more substantial impact will result as the process is analyzed from multiple perspectives and additional unrecognized concerns are met. You want your goal setting to be SMART (specific, measureable, assigned, realistic and time-bounded). Bring together the staff and providers from all disciplines involved. This is a quiet non-judgmental session to gather all perspectives on the VOC (what is added value) and VOP (how are we processing to add value and what is non-value). Keep on asking "Why?" For example, why does it take so long to discharge a patient? Then, why can we not provide their medications scripts to take home in a faster process? Why does the covering physician for the day not know what medications are planned for discharge? This structured brainstorming engages all present in that they are being heard and is one key to motivation and cultural change. The challenge it to cull down the issues and find 1-2 current processes that do not add value. Do not get into scope creep as you cannot fix the world's problems. Decide by consensus which processes can be improved with little effort and maximum impact.

The key components to team formation and documentation in analysis are:

i. Leader (ideally a black belt or green belt)

ii. Facilitator

iii. Scribe (documentation is essential)

iv. Time keeper (maintain a strict schedule)

v. Representative from Accounting

vi. Representative from Medical Information System

In addition, the leader can interview each member of the service for their input without the "halo" effect of a group meeting.

Visualizing

Viewing "from the balcony" your current processes is a most important element. Everyone learns in different ways, but visualizing the Value Stream Map (VSM), waste walks, and post it notes containing opinions used in structured brainstorming will assist the participants in seeing all options and different perspectives. In my opinion, one of the best methods for educating all staff and providers is not didacticism, but rather simulations. The simulation should follow a department protocol and is videotaped to be reviewed by all involved in a debriefing session. The positive effect is palpable as we have witnessed the feedback from many involved. Videotaping is a great method to facilitate overall understanding in many aspects of process improvement. Furthermore, documentation of all current and improved processes aids new members in learning about the value added.

Data management

If you do not have good data you cannot improve. Unfortunately, hospital or system accounting and MIS systems are not configured to currently provide us with robust, dynamic information which can guide us in interpreting true costs, profits, and improvements in outcomes, productivity and reliability. Most of us recognize the static nature of most standard hospital accounting and those who are employees recognize the many defects in billing and claims (aided by intentionally complex insurance and government programs). Therefore, a challenge is to determine the comfort you have with

all patient, physician and staff data to guide improvement. As the Accountable Care Act matures and "pay for performance" is enacted do we have accurate and reliable data? Do not expect providers to change unless the data is accepted and reliable? The mathematical analysis of Six Sigma is rigorous but can clearly demonstrate that this structured methodology is a valid tool in problem solving and continuous improvement.

Information technology

Remains a grave concern for all healthcare providers. There is a lack of customization, education of users, and audits of the documentation. A recent Harvard study attributed 20% of their lawsuits were related to documentation error. Institutions have spent so much money on their Information Technology, not enough time and money is spent on education the users to become facile. One large California system spent 1 Billion dollars on their IT and EMR system. This leaves little money for education and customization for the users. Furthermore, interoperability is a concern. Some believe there is extant cures to the interoperability issue, but systems do not wasn't to share data. The proprietary nature of each manufacturer often makes it impossible to create smooth electronic records that speak and merge with each other.

The Cost of Poor Quality (COPQ)

Generally the cost can be broken down into four categories we should all consider as root causes while we view the VOP and VOC.

a. **Underuse:** failing to use measures to detect Diabetes or give proper vaccination and/or a failure to administer steroids to patients<34 weeks

b. **Overuse:** unnecessary use of resources like radiological/ultrasound procedures or unnecessary medications

c. **Misuse:** avoidable and preventable medical errors

d. **Waste:** waiting, unnecessary administrative activities, rework in correcting errors in the electronic medical record.

Change is continuous and inevitable. Hopefully, you can engage the Management to pay for time, staff, and even consultants to facilitate the methodologies to eliminate waste and enhance continuous quality improvement. More internal stakeholders are realizing that structured business solutions are effective in making healthcare business improve quality at lower cost. We need to identify the goal to be changed. Recognize the omnipresent resistance and clearly explain elimination of waste is needed. Education for all involved is very important to explain the goal and that the process is not meant to be punitive. Pain is part of the survival experience. Rational understanding, learning, and integration of critical thinking should reduce the resistance. Cultural change and some of these methodologies will take a long time and should be actively sustained. Managing the change (be it a short or long term) will improve productivity, create energy, foster teamwork and increase the likelihood of sustaining improvements.

Time

Reflecting on my 40 years in different levels of management it is obvious with current cuts in staff and increased patient/nurse/and physician a ratios makes it more difficult than ever to get a TEAM together to implement the proper methodologies. Restoring pride in the professional activity with enhanced attention to the individual is a must in order to positively affect the culture. More physicians are employees and involved in the current mass mergers and extension of time and travel: thus, their time for successful discussion of issues and their subsequent need to understand the employer's mandates is cumbersome and is often not very productive. This will be an ongoing issue and the leadership must decide if the meetings must be mandatory considering risk/benefit. Non-proactive meetings should be minimized and actionable core Teams involved in structured continuous process are given preference. Furthermore, management wants quick solutions due to current cost restraints and increased mergers and acquisitions. Often systems merge without the core institution functioning at a high-level. This is a business model destined for failure.

Sustainability

The selected changes must be maintained with a closed loop feedback continually audited. It may be necessary to stop the changes if failure is recognized. Transparency is absolute supported by granular and robust data. You also have the ability to detect ongoing defects and unintended consequences. Now is the time to look for waste in order to benefit the internal and external stakeholders. Plan, define and measure, analyze and control the root causes of the COPQ in a structured method. Successful business solutions can release the future models of healthcare in Obstetrics and breakdown silos. We want to know the outcomes in neonatal care and neurodevelopment of the fetus evaluated and managed in pregnancy. The top of the management chain (CEO, COO, etc) talk a good game with great slides. but effective, defect-free implementation remains anemically addressed. This challenge may take a decade to cure as they franchise in order to compete. The stress to supply person power with high quality processes and outcomes is a growing challenge.

Acknowledgments

Conflicts of interest

None.

References

1. (2005) Going Lean in Health Care. IHI Innovation Series white paper. Institute for Healthcare Improvement, Cambridge, MA, USA.