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WIPFLI HEALTHCARE PERSPECTIVE

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Lean Six Sigma for Health Care Providers

The cost of providing health care is escalating at an alarming rate. Medicare is on a slow path to becoming insolvent as the baby boomers age. Private insurance companies are increasingly carrying the burden of Medicare's shortcomings. They, in turn, are passing the expense on to their customers through increased premiums and decreased coverage levels.

At this critical juncture, the health care industry must find ways to improve the efficiency and effectiveness of care delivery while reducing cost. Choosing the proper process improvement methodology is critical.

Lean Six Sigma can provide the rapid improvements necessary to achieve quick wins for organizations with the structure and discipline associated with Six Sigma methodologies. Moreover, a Lean Six Sigma approach helps to ensure the sustainability of the improvement effort and ongoing continuous improvement. Providers that adopt the methodology will pursue improvements in patient satisfaction, cost, quality of care, process speed, and process variation.

Each of the following four elements of Lean Six Sigma can be undertaken individually, with the understanding that limited success is possible without the adoption of all aspects of Lean Six Sigma.

Element 1: Strategic Vision

The strategic vision element of Lean Six Sigma pertains to the alignment of the process improvement initiative to the overall business objectives. Two primary tools can be used to ensure this element is deployed effectively. The first is the development or confirmation of the strategic vision of the organization as a whole.

However, simply having a strategic vision is rarely adequate; documentation and measurement of the actual achievement of the vision is critical. This can be accomplished by using a balanced-scorecard approach, which measures progress toward the organization's vision and strategy through the four primary elements of the organization: financial, internal business processes, learning and growth, and customer.

The key building block to the strategic vision in regard to Lean Six Sigma is linking the balanced scorecard of the organization to the process improvement initiatives conducted within the Lean Six Sigma methodology. This will be accomplished through the use of a project charter linked directly to the balanced scorecard and the business objectives of the health care organization.

Element 2: Cultural Acceptance

The second element of the Lean Six Sigma approach requires the organization to treat the process improvement methodology as a belief system. Process improvement initiatives have been conducted in many organizations over the past few decades. There are documented success stories as well as failures.

This element of the Lean Six Sigma approach strives to convey to health care organizations that any process improvement methodology must be fully adopted by all levels within the organization to be successful. Edicts from senior management will not convince middle managers, physicians, or care delivery staff that the chosen process improvement methodology will benefit the organization. A concerted educational effort for all stakeholders must be undertaken. This is the process of instilling the Lean Six Sigma principles as a belief system into the organizational culture. It can be a significant cultural shift for many organizations. In an effort to ensure that this process improvement initiative is sustainable for the long term, this element is critical.

Assessing organizational culture is not as arduous as one would think. However, there are some prerequisites necessary for a successful organizational transformation. The organizational culture must readily accept change. Clinicians in your organization need to demonstrate collaboration in problem solving and decision making. One key component that is critical to evolving culture and implementing change is the ability for your staff to be empowered to address conflict, make decisions, problem solve, and communicate among themselves. The presence of these skills or training for them is essential to cultural readiness in conjunction with a Lean Six Sigma approach to improvement.

Element 3: Quantitative Analysis

The third element of the Lean Six Sigma methodology involves the quantitative analysis of information. This element requires a set of tools to measure the processes under improvement. The specific tools will vary dramatically based upon the type of process. This element of Lean Six Sigma is focused on the quantitative analysis of collected data associated with the specific process improvement initiative.

Table 1 contains a generic data measurement plan that may be representative of the type of tool that would be used to track the appropriate data and to assign responsibility for the collection of data. The specific tools used to analyze the data are highly dependent upon the process, the type of data available, and the problem the process improvement team is attempting to solve. All of these factors will determine the final element of the Lean Six Sigma approach.

Table 1: Data Measurement Table

Performance measure	Operational definition	Data source and location	Sample size	Who will collect the data	When will data be collected	How will data be collected	Other data that should be collected at the same time
How will the data be used?					How will the data be displayed?		

Element 4: Process Improvement

The fourth and final element of the Lean Six Sigma approach is the suite of process improvement methods that can be brought to bear on the issues faced by the organization. Similar to the quantitative analysis aspect of the Lean Six Sigma approach, this element will be largely driven by the health care organization, the organization's needs, and the issue the process improvement team is attempting to address.

The process improvement suite will be driven by the DMAIC (define, measure, analyze, improve, control) principle. The "define" phase will provide the opportunity to determine which tool set is the most appropriate for the situation.

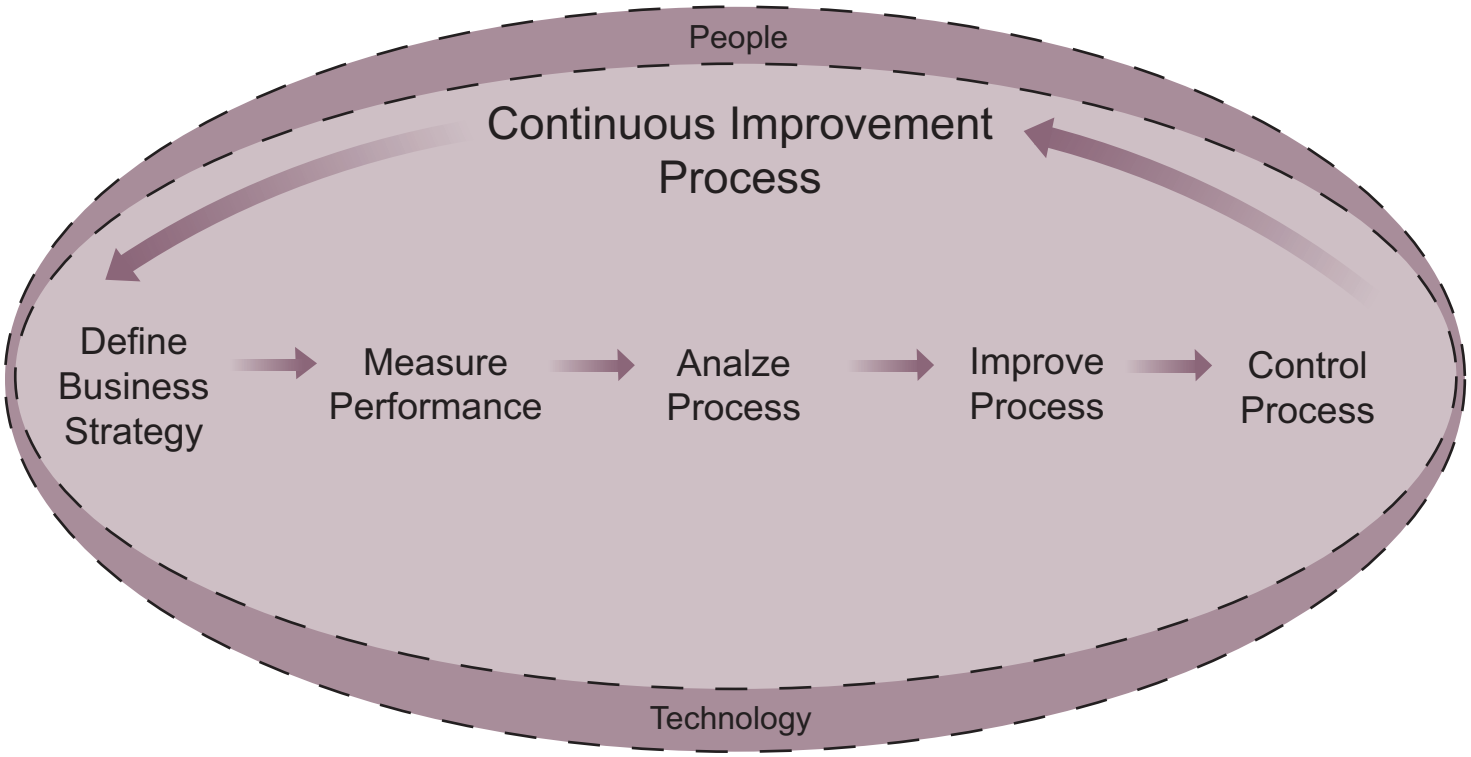
The determination of the set of specific tools to use will be based on a few simple questions regarding the process improvement effort:

- Is the potential solution known? (A negative response to this question will indicate that a full DMAIC effort is required to determine the root cause of the issue and the appropriate actions associated with the process improvement effort. An affirmative response to this question will guide the team to answer the following additional questions.)
- Is the solution easy to implement?
- Is the solution fast to implement?
- Is the solution cheap to implement?
- Is the solution within the team's control?

Affirmative or qualified affirmative responses to these questions indicate that the team should proceed with a PDCA (plan, do, check, act) approach to the implementation. This approach is commonly associated with lean initiatives and will contain many specific tools such as value-stream mapping, Kaizen events, and 5S (sort, straighten, shine, standardize, sustain). The added feature of the Lean Six Sigma approach is to loop any PDCA activity back to the overarching DMAIC methodology and execute the final phase of DMAIC, "control." This will ensure that the structure is in place for the Lean efforts to be sustained and measured.

The combination of the structure of Six Sigma and the rapid deployment of Lean, with the ability to combine the specific tools utilized to achieve benefits, is critical to the success of the Lean Six Sigma approach for health care organizations. This methodology provides significant flexibility for the organization in achieving both short-term results (Lean) as well as long-term sustainability (Six Sigma).

The overarching benefit of a Lean Six Sigma approach is the structure that it provides for continuous improvement as depicted in Figure 1, which is ultimately what health care organizations want to achieve to provide ongoing excellence in service delivery.



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Cameron Reid, Six Sigma Green Belt Certified, is a senior consultant at Wipfli with more than 12 years of experience helping organizations align their strategy and technology needs. Leveraging best practices from his experience with a wide range of industries, Cameron applies the most appropriate means and methods to successfully address his clients' business issues.

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