



Research Article

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# Performance Improvement Project in Health Care System and Its Advantages Using Quality Management Tolls

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## Abstract

**Background and Objective:** The main theme of this article is to discuss the Performance improvement project in health care system and its advantages using quality management tolls.

**Methods:** The Author of this article has chosen literature review methodology of random research articles to discuss the Performance improvement project in health care system and its advantages using quality management tolls. 20 PubMed articles and other PIP websites were reviewed to learn the different methods of conducting Performance improvement projects. All the articles and websites were checked for the common advantages of conducting PIP's. Three tables from different organizations were referenced for the different steps and methods to conduct PIP's and one table discuss the frequency of common advantages of PIP.

**Results:** Three tables from different organizations were referenced for the different steps and methods to conduct PIP's and one table discuss the frequency of common advantages of PIP. From four of the SPSS Diagrams three of them discusses the steps and procedure to conduct the PIP's and the fourth SPSS Diagram shows the frequency of the advantages discussed after conducting PIP's.

**Conclusion:** To conclude, there are ways to conduct the Performance improvement project (PIP's) such as FOCUS PDCA, 10 steps for PIP's others. The main aim is to find a research question or problem, select the right people and the ideal process to simplify the solution of the problem. Quality improvement is the continuous process which needs methods like Kaizen, Lean thinking, Six sigma, 7 Muda, 5 S, just in time, SWOT, PESTEL, 7 Quality tools and 29 Management tools. All the quality improvement methods take time to implement but the results increase the productivity and saves money and time for the organization.

**Keywords:** Quality improvement, Performance improvement project, communication, evidence-based practice, teamwork, smart manufacturing, manufacturing performance methods, performance measurement, productivity, sustainability, quality of healthcare, research subjects

## Introduction

The purpose of the PIP Performance improvement project [1] is to make improvements in the overall quality of care provided to enrollees by assessing and improving processes or outcomes of care. To provides an opportunity to have a potentially significant

impact on enrollee health functional status or satisfaction. To provides an opportunity to identify and measure clinical and non-clinical [1] targeted areas and it helps to develop a framework for future performance improvement projects. The value improvement (VI) approach was developed [2] by the Institute for healthcare improvement and successfully piloted at Raigmore Hospital



Scotland. It showed positive results in improving outcomes and reducing costs. As a result of the VI methodology our team achieved improvements across performance staff capacity and cost domains. Compared with the 4–8 weeks baseline data collection period these improvements included an increase in discharges before 13:00 hour by 61%, a reduction in the number of blood samples per patient per day by 20%, an [2] increase in nursing time spent in direct patient care by 18%, and an increase in staff satisfaction to 40%.

Quality Improvement (QI) is the intentional process [3] of making system level changes in clinical processes with a continuous reassessment to improve the delivery of a product. In Emergency Medical Services this product is essentially the delivery of high-quality prehospital care. Quality improvement programs typically work best in an environment that implements change through a robust non-punitive education program. Effective QI programs [3] are transparent both administration and clinical staff understand the goals and methods of any ongoing quality improvement project. Lean management and Lean six sigma methodology have [4] shown promising results to improve the quality of health care system. Lean six sigma methodology works by reducing 8 wastes including overproduction, inventory, waiting, Motion, Transportation, rework, over processing and non-utilized talent. Lean management is an approach to manage an organization that support the concept of continuous improvement. The 5 principles of lean model include value, value stream, flow, pull and perfection. Lean methodology [4] relies on three simple ideas such as deliver value, Eliminate waste and continuous improvement.

## Methods

The Author of this article has chosen literature review methodology of random research articles to discuss the Performance improvement project in health care system and its advantages using quality management tolls. 20 PubMed articles and other PIP websites were reviewed to learn the different methods of conducting Performance improvement projects. All the articles and websites were hacked for the common advantages of conducting PIP's. Three tables from different organizations were referenced for the different steps and methods to conduct PIP's and one table discuss the frequency of common advantages of PIP. Performance Improvement Projects (PIPs) are an integral [5] part of Texas Medicaid's managed care quality strategy. The Balanced Budget Act of 1997 requires all states with Medicaid managed care to ensure

health plans conduct PIPs. According to 42 CFR 438.330, projects must be designed to achieve through ongoing measurements and interventions significant improvement sustained over time in clinical care and [5] nonclinical care areas that have a favorable effect on health outcomes and enrollee satisfaction.

The primary purposes of this QI measurement framework [6] are to

1. Support public health agencies' efforts to achieve demonstrable outcomes,
2. Provide a means to aggregate the impact of individual QI initiatives, and
3. Advance the science and practice of this emerging field.

The Public Health Services and Systems Research national research agenda has focused attention on the following QI research questions:

- a) What measures provide the most valid and reliable indicators of the implementation and impact of QI strategies in public health settings?
- b) What types of QI strategies have the largest [6] effects on the effectiveness, efficiency, and outcomes of public health strategies delivered at local, state, and national levels? 8 of the articles including the quality management [7] websites agree on the use of 5S and 7 Muda methodology. Different organization around the globe are using 5S and 7 Muda methodology to get benefits for improvement of their health care system. The step-by-step process of 5S and 7 Muda methodology is smart way to start, monitor, [7] finish and follow up the broken health system in several countries.

Although there is a growing body of research evidence [8] about continuous quality improvement CQI programs both nationally and internationally and considerable investment by the federal government in Australia to support CQI as part of routine practice. There has not been a systematic assessment of the achievements of CQI in Indigenous primary health care services. Many unanswered questions remain about the extent of uptake, implementation and impacts. This is a barrier to future investment and regional and local program design, monitoring and evaluation. [8] The authors conducted a scoping review to address these questions (Figure 1-4).

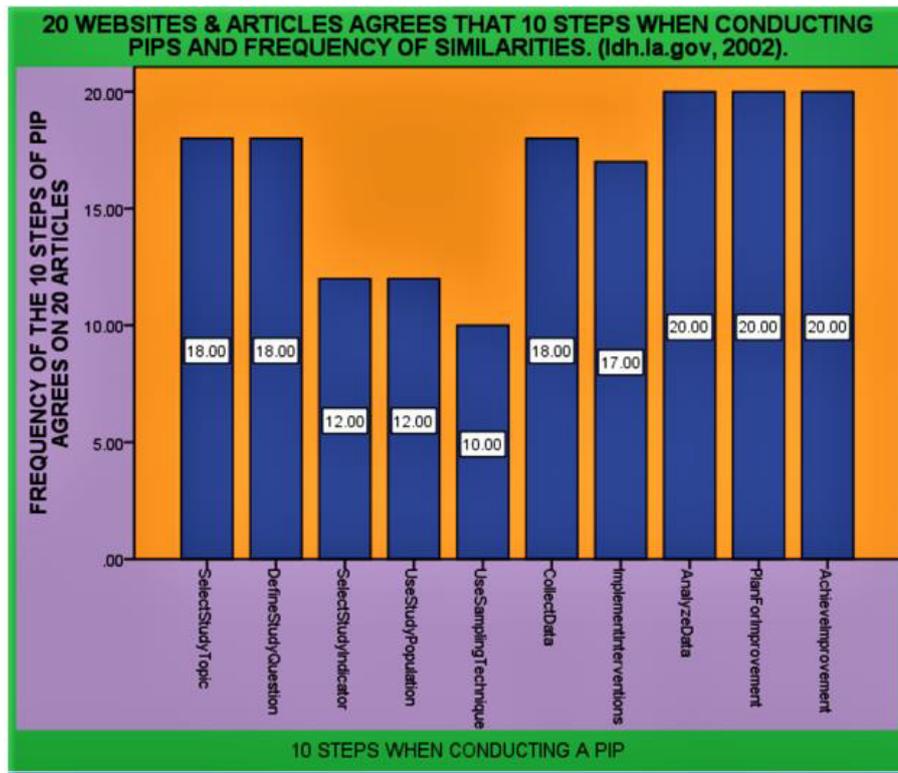


Figure 1: 20 Websites & Articles Agrees That 10 Steps When Conducting Pips and Frequency of Similarities. (ldh.la.gov, 2002).

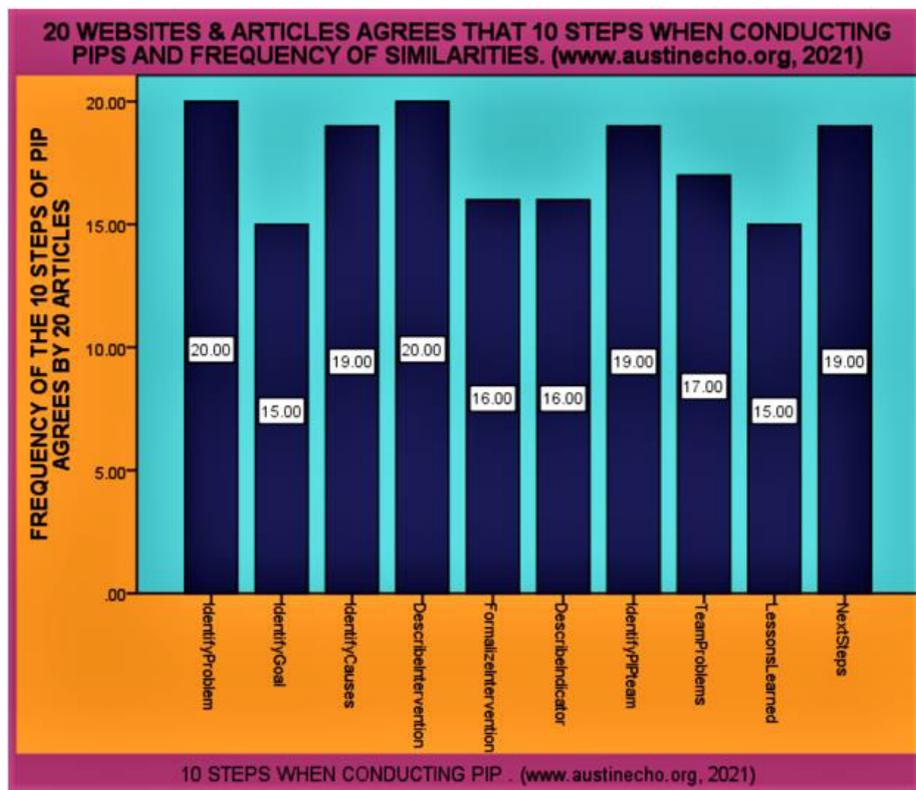


Figure 2: 20 Websites & Articles Agrees that 10 Steps When Conducting pips and Frequency of Similarities. (www.austinecho.org, 2021).

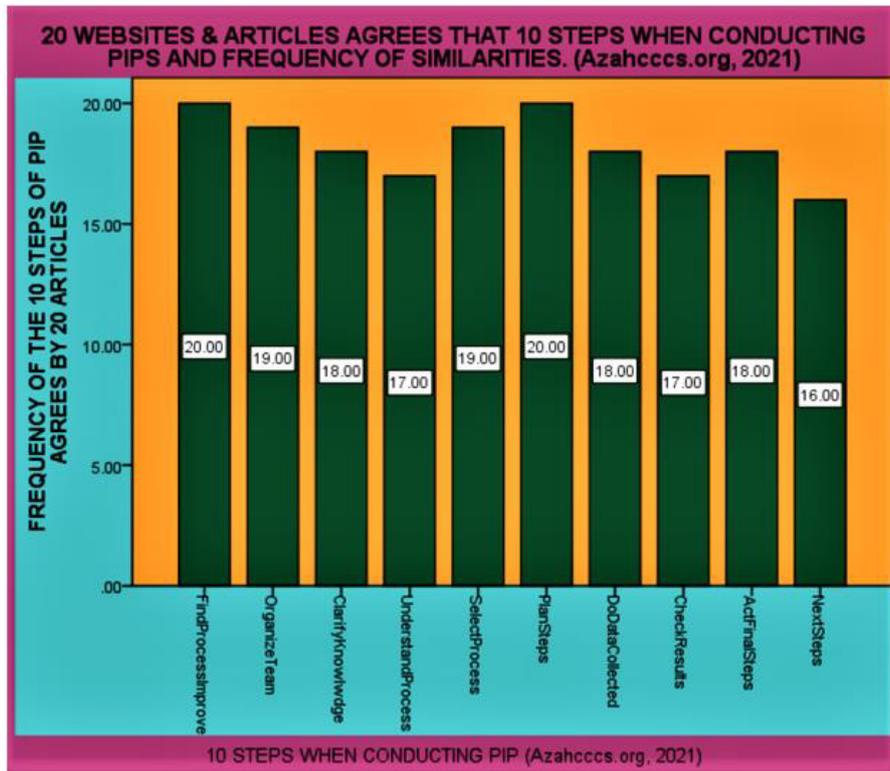


Figure 3: 20 Websites & Articles Agrees That 10 Steps When Conducting Pips and Frequency of Similarities. (Azahcccs.org, 2021).

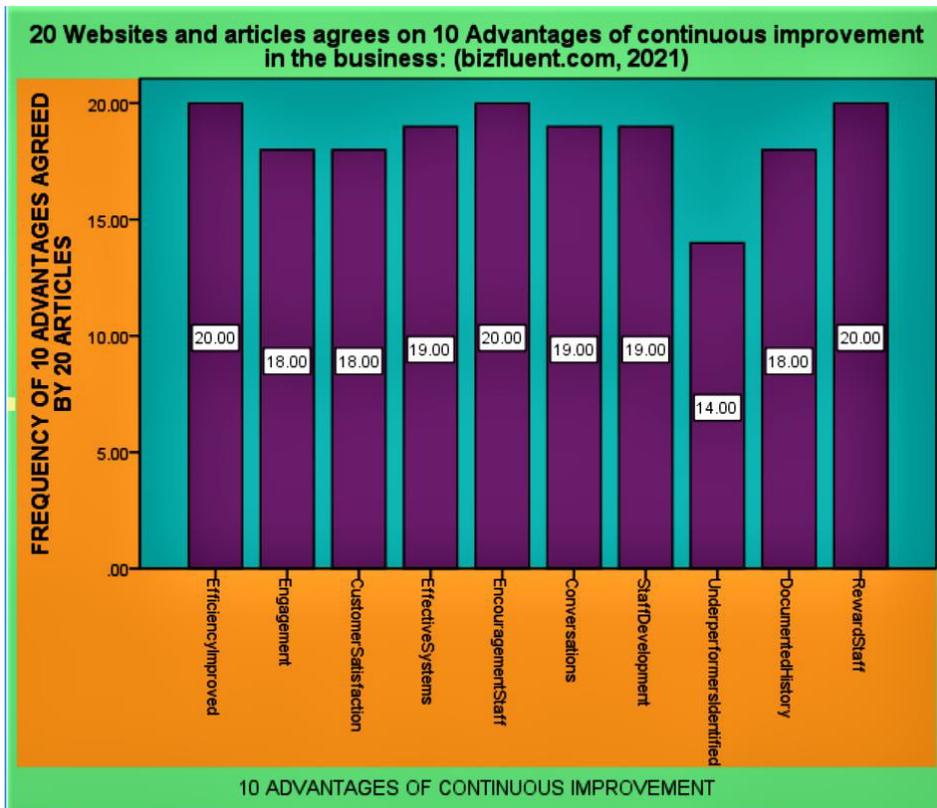


Figure 4: 20 Websites and articles agrees on 10 Advantages of continuous improvement in the business: (bizfluent.com, 2021).

## Results

Three tables from different organizations were referenced for the different steps and methods to conduct PIP's and one table discuss the frequency of common advantages of PIP. From four of the SPSS Diagrams three of them discusses the steps and procedure to conduct the PIP's and the fourth SPSS Diagram shows the frequency of the advantages discussed after conducting PIP's. This mandatory protocol is used to determine whether a [9] health care quality performance improvement project (PIP) was designed conducted and reported in a methodologically sound manner. The purpose of a PIP is to assess and improve the processes and outcomes of health care provided by an MCO.

Protocol 3 specifies how to conduct the following three activities:

- a. Assess the study methodology.
- b. Verify PIP study findings.
- c. Evaluate overall validity and reliability of study results. Results of the MCO's PIPs may be reported in the annual Secretary's Report on the Quality of Care for (Medicaid.gov, 2012) Children in Medicaid and CHIP or the annual Secretary's Report on the Quality of Care for Adults in Medicaid.

By the literature review of the PESTEL/PESTLE analysis [10] tool, it helps the organization to focus on 6 important factors to grow the business. 6 important factors include political focus on health care, economic challenges, social factors, technological factors, legal factors, and the environmental factors. The government policies, Inflation and unemployment, demographics (age, gender, race, family size), new ways of producing and distributing goods, carbon footprint targets and [10] Ahsan Siddiqui, 2021) health and safety rules are very important. Our experience of developmental evaluation confirmed (Alison L, Jodie B, Veronica M and Ross B, 2020) our expectations of the potential value of this approach for strengthening improvement interventions and implementation research and particularly for adapting healthcare innovations in Indigenous settings. In our project developmental evaluation successfully encompassed evaluation project adaptation capacity development and knowledge translation. Further work is warranted to apply this approach more widely to improve [11] primary healthcare initiatives and outcomes and to evaluate implementation research.

Common quality improvement frameworks include [12] Six Sigma Lean and the Model for Improvement. These models are contrasted with a focus on the Model for Improvement because it is widely used and applicable to a variety of quality-of-care

problems without advanced training. It involves three steps setting aims to focus improvement choosing a balanced set of measures to determine if improvement occurs and testing new ideas to change the current process. These new ideas are [12] evaluated using Plan-Do-Study-Act cycles where knowledge is gained by testing changes and reflecting on their effect.

## Discussion

The goals of human subject's research and quality improvement [13] projects do not intersect, and quality improvement projects are generally not subject to US Department of Health and Human Services (HHS) regulatory protections. However, some projects are both quality improvement and human subjects research and sometimes a quality improvement project develops into a human subject's research project. Investigators must be aware of the criteria defining human subjects research to ensure that [11] HHS regulations for the protection of human subjects are applied when necessary. SWOT analysis or SWOT matrix tool is very useful quality [14] management tool for the industry. Strength, weaknesses, opportunities, and threats helps to identify all the characteristics in the organization to start the process of improvement. SWOT analysis tool is infact tool for various industries engineering, defense, aviation, motor, real state, tourism, etc. SWOT tool helps administration to simplify the challenges an organization is facing and would face in the future to write and implement the corrective actions for improvement. SWOT analysis also helps to identify the 7 Muda wastes of the organization to [14] reduce the wastes to make the organization reliable productive and profitable (Table 1-4).

**Table 1:** The protocol (Conducting Performance improvement projects) describes ten steps to be undertaken when conducting PIPs/ Similarity of frequency in 20 Articles: (ldh.la.gov, [16]).

20 Websites & Articles Agrees That 10 Steps When Conducting Pips and Frequency of Similarities (ldh.La.Gov ).		
	10 Steps When Conducting PIP's	Similarity Of Frequency in 20 Articles
1	Select the study topic(s).	18
2	Define the study question(s).	18
3	Select the study indicator(s).	12
4	Use a representative and generalizable study population.	12
5	Use sound sampling techniques (if sampling is used).	10
6	Reliably collect data.	18
7	Implement intervention and improvement strategies.	17
8	Analyze data and interpret study results.	20
9	Plan for "real" improvement.	20
10	Achieve sustained improvement.	20

**Table 2:** Steps need to be taken to develop a PIP that best meets the unique needs of the nursing home. ([www.austinecho.org](http://www.austinecho.org), [17]).

**20 Websites & Articles Agrees That 10 Steps When Conducting Pips and Frequency of Similarities. ([www.Austinecho.Org](http://www.Austinecho.Org), 2021)**

10 Steps When Conducting PIP's		Similarity of Frequency in 20 Articles
1	Identify the Problem. (One or two sentences).	20
2	Identify the Goal. (One sentence on what this PIP aims).	15
3	Identify Causes and Contributing Factors of the Issue.	19
4	Describe Potential Intervention(s). (List all potential interventions)	20
5	Formalize the Intervention(s). (Describe who will be responsible for the intervention)	16
6	Describe the Measures/Indicators that the PIP Team Will Use. (Process measure/ Outcome measures.)	16
7	Identify How the PIP Team Will Inform Residents, Families, and All Levels of Staff of the PIP:	19
8	Determine How the Team Will Identify an Evolving Problem.	17
9	Document Lessons Learned. (KEY lessons that the team learned through the PIP)	15
10	Determine Next Steps. (Performance improvement is a continuous process.)	19

**Table 3:** Steps need to be taken to develop a PIP that best meets the unique needs of the nursing home. ([Azahcccs.org](http://Azahcccs.org), [18]).

**20 Websites & Articles Agrees That 10 Steps when Conducting Pips and Frequency of Similarities ([Azahcccs.Org](http://Azahcccs.Org), 2021)**

10 Steps When Conducting PIP's		Similarity of Frequency in 20 Articles.
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8	Determine How the Team Will Identify an Evolving Problem.	17
9	Document Lessons Learned. (KEY lessons that the team learned through the PIP)	15
10	Determine Next Steps. (Performance improvement is a continuous process.)	19

**Table 4:** Advantages of continuous improvement in the business: ([bizfluent.com](http://bizfluent.com), [19]).

**20 Websites & Articles Agrees That 10 Steps When Conducting Pips and Frequency of Similarities. ([Azahcccs.Org](http://Azahcccs.Org), 2021)**

10 Steps When Conducting PIP's		Similarity of Frequency in 20 Articles
1	F: (Find a process to improve)	20
2	O: (Organize the Team)	19
3	C: (Clarify current knowledge of the process)	18
4	U: (Understand the source of process variation)	17
5	S: (Select the process improvement)	19
6	P: (Plan step where the problem is defined, and a solution developed.)	20
7	D: Do = data must be collected – Changes are made – Plan is implemented.	18
8	C: Check: Did the changes have the desired result?	17
9	A: Act: The final step is to take the steps necessary to maintain the improvement.	18
10	Determine Next Steps. (Performance improvement is a continuous process.)	16

A Quality Improvement Project in one of the [15] Special Care Dentistry (SCD) specialist centers in the School of Dentistry in Belfast aimed to improve the identification of the specific dental care needs of SCD patients. The Model for Improvement was used to define project objectives and subsequently implement changes to practice aimed at achieving those objectives through Plan-Do-Study-Act (PDSA) cycles. The use of a Patient Needs Assessment pro-forma can achieve significant improvements in the extent and accessibility of information available to [15] assist in the planning and delivery of appropriate and equitable care for SCD patients. During the current recession economy [16] around the globe it is wise to choose the quality tools such as KAIZEN for the growth of organizations. Toyota motors, BMW Germany, Ford motors USA, other companies are using the KAIZEN tool to organize their organization reduce the waste and increase the profits. Author has discussed in the article the principles of KAIZEN to implement in organization and the major benefits of KAIZEN. Developing economies and underdeveloped countries and their economic ministries [16] should implement quality tools such as KAIZEN tools to reduce the waste and increase the profits of the organization.

**Conclusion**

To conclude, there are ways to conduct the Performance improvement project (PIP's) such as FOCUS PDCA, 10 steps for PIP's others. The main aim is to find a research question or problem, select the right people and the ideal process to simplify the solution of the problem. Quality improvement is the continuous process which needs methods like Kaizen, Lean thinking, Six sigma, 7 Muda, 5 S, just in time, SWOT, PESTEL, 7 Quality tools and 29 Management

tools. All the quality improvement methods take time to implement but the results increase the productivity and saves money and time for the organization [20-21].

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