Article

Improving Patient Experience at Outpatient Clinics Using Continuous Improvement Tools

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Abstract: Patients satisfaction with fast and high-quality services is the most important in the healthcare settings and specially in outpatient departments and private clinics. High quality services on health sector are indicated by continuous quality improvement (CQI). CQI is a progressive incremental process focused on safety of all participants, outcomes, systematic process, regulated and improved working environment at the later than earlier stages. Among the various suggested strategies, we adopted the patents feedback to improve the quality of services our clinic. All of the patient visited hospital were sent a massage on mobile and requested to provide their feedback on our services. Roughly around 5% of all visitors responded and filled up questionnaire. Majority of them were satisfied with the services in various department. However, they provided us some suggestions to identify the further gaps and improve the services in improving patients experience at our clinic. We considered their feedback, identified problems, redesigned the policies and implemented. After implementation of new strategies, we preliminary again evaluated the patients' feedback on our services. Patients feedback explores that optimized methods of services for the has considerably increased the patients' satisfaction. Taken together, our this shows that patients' feedback is very important factor to improve patients' experience at outpatient clinics using continuous quality improvement tools. For that reason, this study would serve as reference for public health stack holders, administrators and researchers.

Keywords: Hospital management; Tertiary care; healthcare; Administration; Patient experience

1. Introduction

In this modernized age, healthcare system, globalization, high expectations of patients, rising demands and fast track competitive environment, continuous improvement in healthcare setups with advanced tool is inevitable. Although there is always a potential for the improvement of any system, but the knowledge of gaps is the most important factor to optimize the system with high efficiency [1]. For a long time, selection of the quality indicators of healthcare services has been the main concern in various locations globally. In the value based current era of healthcare system, patients' experiences have become the key indicator of quality in healthcare system [2]. Continuous quality improvement (CQI) literature suggests that well organized, planned and systematic approaches are critical in efficient organizational performance [3]. Furthermore, the fast track and high-quality work in clinics is greatly helpful in reducing waste and minimizing the waste management associated costs [4], hence reducing the customers economic burden.

Implementation efficient and effective strategies and techniques with committed stakeholders are the key pints in this process. Similarly, equipping the staff with technical skills along with improvement of human behaviors is also equally important to achieve the goals [5]. Which is not addressed satisfactorily [5]. Which might result in possible gaps to maintain highly efficient system. Further, system optimization is achieved through process optimization, value added process mapping, problem identification and isolation,

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cause analysis and carefully approach to resolve the problem [1]. Literature suggests that several processes are developed over the time with limited focus to their efficacy regardless they might be very efficient in provision of services and products. To maintain high quality and goal-oriented standard in business, identification of wasteful and uneconomical processes and their improvement is inevitable at the end of companies [1]. During the recent six or seven decades, scientists are working to improve practices by reviewing practices and observing various industrial settings [6].

CQI approaches in healthcare settings are adherent to the best practiced clinical guidelines, availability of services under the one roof, optimum regularity of patients/client attendance, quality of the services provided, patients experience, patients bedding environment, hospital waste management, etc. Most important indicators of CQI includes regular audit of applied practices in hospitals, minimum treatment related adverse events, efficient reception, and handling of the patients and attendants. However, occult or anonymous reasons may have great impact on quality of services provided to the patients [1, 7], which requires feedback from patients or attendants and highly vigilant system to eliminate such circumstances. But, there is very limited number of studies focusing of CQI in public health and reporting efficiency of systems to be compared with other available systems, that can otherwise play a significant role in developing more optimized guidelines according to demand of the current age. So, this study aims to investigate the efficiency of system at an outpatient clinic focusing on patients' services time at various steps and obstacles faced by the patients during this encounter. Also provide some suggestions to overcome these obstacles at various steps.

2. Methodology

This study was conducted in a multi-specialty outpatient clinic setup in a multistory building. Four floor (from ground to 4th) floors are dedicated for the clinical care delivery., Each floor is designated for some specialty. This outpatient clinic has the around 50 clinics, 24/7 ER, Radiology, Laboratory and Pharmacy department. This Outpatient clinic holds the capacity of providing services to 800 patients every day. Patients can book appointments through call center or come as a walk-in patient. Call Center team collects the information of the patient and creates the patient file and book appointment as per the patient needs. Patient gets a confirmation through SMS sent to their registered mobile number.

Upon arrival of patients into Clinic, patient need to report at reception desk, where reception takes the details of the patient and verify the identity, insurance in case of insured patient, and check in the patient. Once patient is checked in his patient status is visible to the nursing team for triage. After doing the triage patient is called by the physician for the consultation. Clinic has fully functional electronic health record (EHR) system where all the patient records are kept and are visible to the relevant departments as per the needs. Doctor enters the diagnosis, investigations needed and treatment plans as necessary for patient care. In case patient is asked for any Laboratory or radiology investigations, they are either go same time or based on the patient and procedure need it can be planned as well. Lastly patients take the prescribed medication from the pharmacy. The standard flow chart of each patient coming for checkup is given in figure 1 below.

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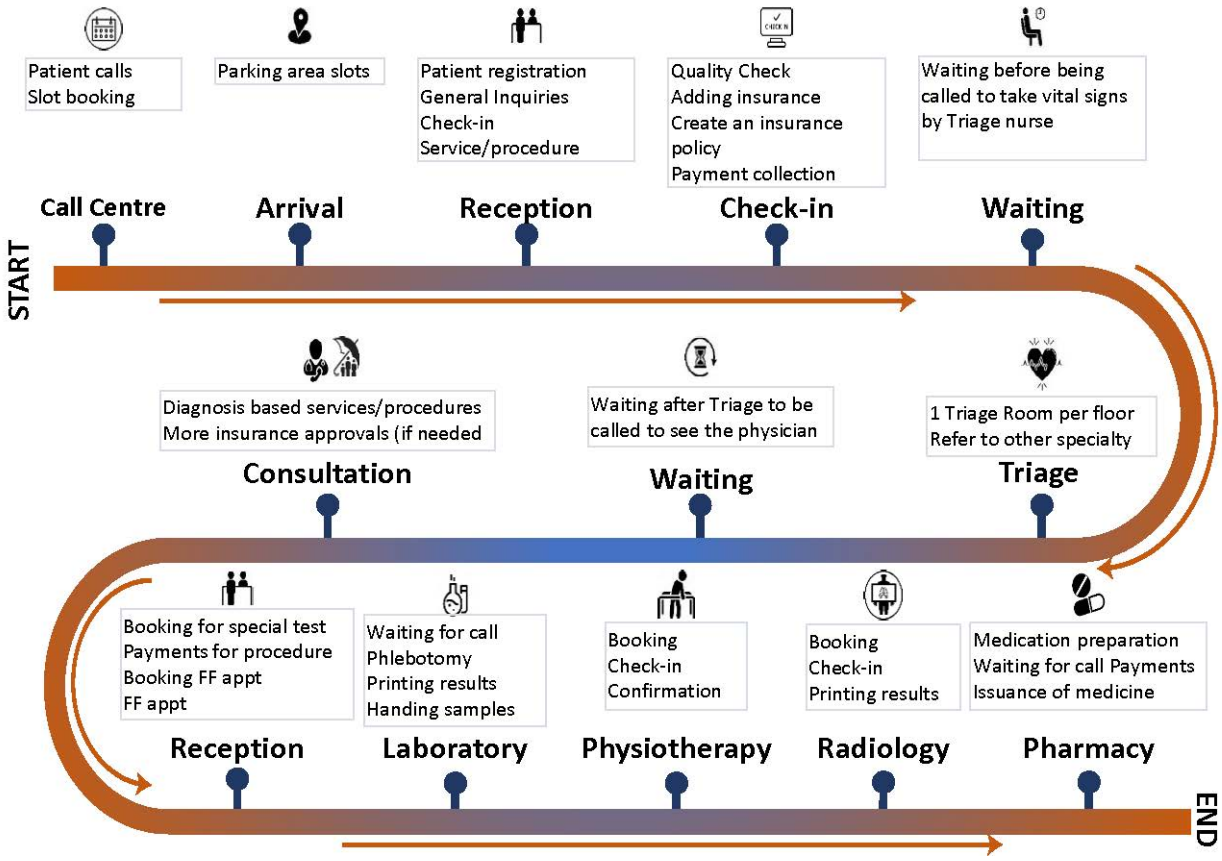

Figure 1. Flow chart of the process for patients' services at outpatient clinic.

To evaluate the patient's satisfaction, massage is sent to the patients on their registered mobile number for feedback to improve the quality of services. Patients are asked to provide feedback on their satisfaction level for the services they got on each touch point. However, usually the response rates from the patients are very low, that is roughly around 5%. The given data is presented in the following figures is the record of patient responded to fill up patient feedback questionnaire. To further evaluate the cause and effects of various factors, we used fish bone diagram or cause and effect method for improvement efficiency

3. Results and Discussion:

3.1. Improvement areas and interventions

Continuous improvement methodologies are widely used in manufacturing operations and certain other industries, while there is a wide opportunity for implementation of these tools in the healthcare industry. One of the most important aspect of continuous improvement methodologies are targeted to eliminate the waste of any kind in the operations. Continuous improvement is a method for identifying opportunities for streamlining work and reducing waste. Waste is defined as anything which doesn't add value to the product, services, way of working, and process etc.

First step is to find where the waste is happening and then doing the root cause analysis to find the solutions.

Most of the time, cause of the waste was found in 05 areas. 1) Management: Cause of the waste associated with management can be poor organization structure, lack of resources, lack of information and communication issues. 2) Man: Causes of the waste associated with man can be lack of knowledge, skill, motivation, human capability, attention levels and habits. 3) Method: Causes of the waste related to the method can be poor organization of the workspace, poor setup of process steps, lack of standard operating procedures. 4) Machine: Causes of the waste related to machines can be lack of machines

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technical capacity, capability, specification, poor maintenance, and accuracy. 5) Material: Causes of the waste related to the material can be poor parts, defective materials and wrong size the idea to understand the waste and its possible causes is to develop a holistic view when we are analyzing the problem and find the possible waste associated to any of these areas. By rightly identifying the waste n where it exists, we should be in a better situation to find the solution.

Below figure 2 explain what type of causes are usually associated with each of the above 5 mains.

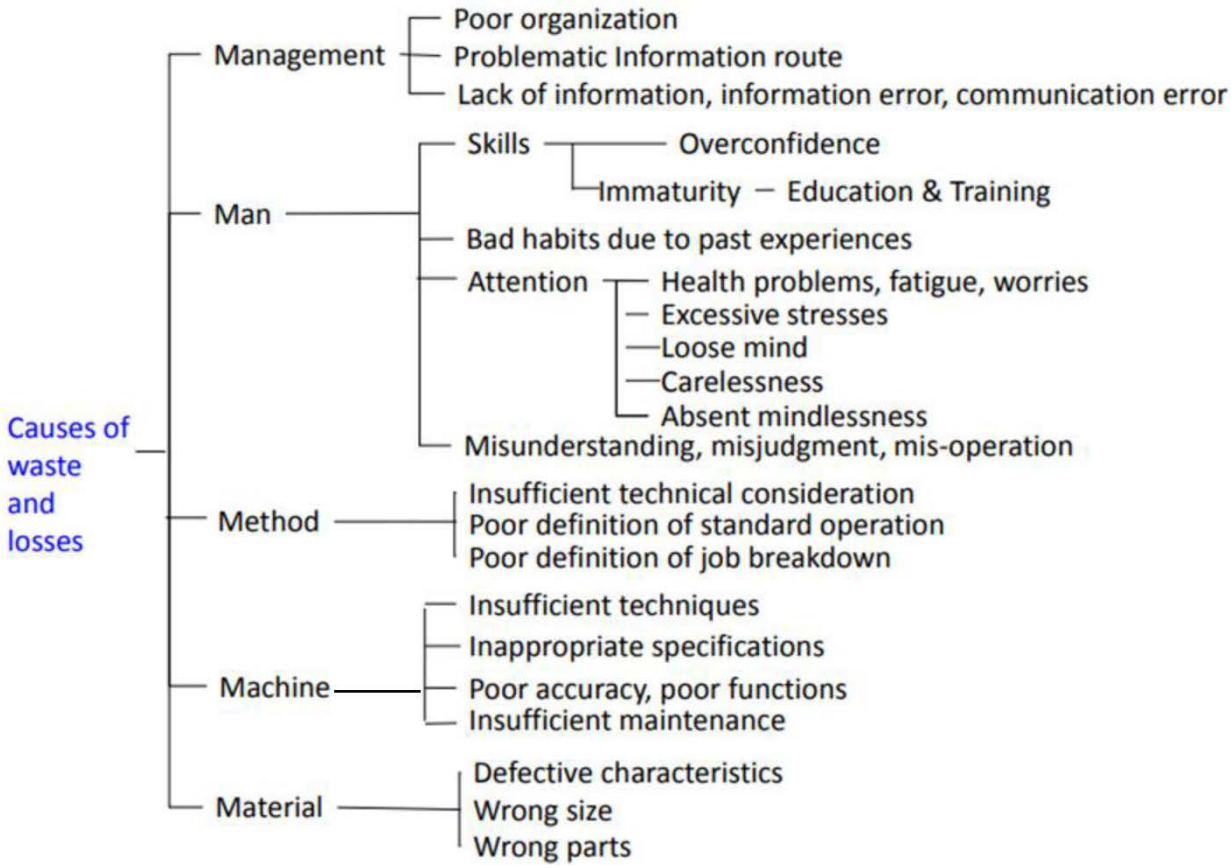

Figure 2. Main identified gaps and improvement areas in waste management.

Reduction of the losses doesn't not only reduce the cost, it enables the company to be competitive in this ever-challenging world. As we are now living in the world which has changed into a global village and dynamic developmental process. We need to continuously improve our systems, process, methodologies and structures to ensure competitive advantage. Another element is there might be a process that is optimized as per today context of technology, maturity of the process and system but might be a creating loss in with the future state. A zero-waste mindset is important to understand that concept which makes the loss quantitative and doesn't not take it off the radar until we make that loss zero.

3.2. Customers satisfaction

This study reported reasonable customers satisfaction, however we found still gaps for improvement. Data shows that 88% of survey participants were satisfied with insurance policy of our clinic with highest customers satisfaction score (CSAT). Further, 86% of the participants showed their satisfaction on overall available facilities at the setup and with services provided by the nursing staff of the clinic. Satisfaction rates of services at clinics and radiology departments reached 85%. Only, 83% and 82% of customers were satisfied with the reception at clinics and the process of appointment. While, the minimum

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satisfaction rates are reported at pharmacy for the issuance of prescribed medicine. Details are shown in figure 3 below.

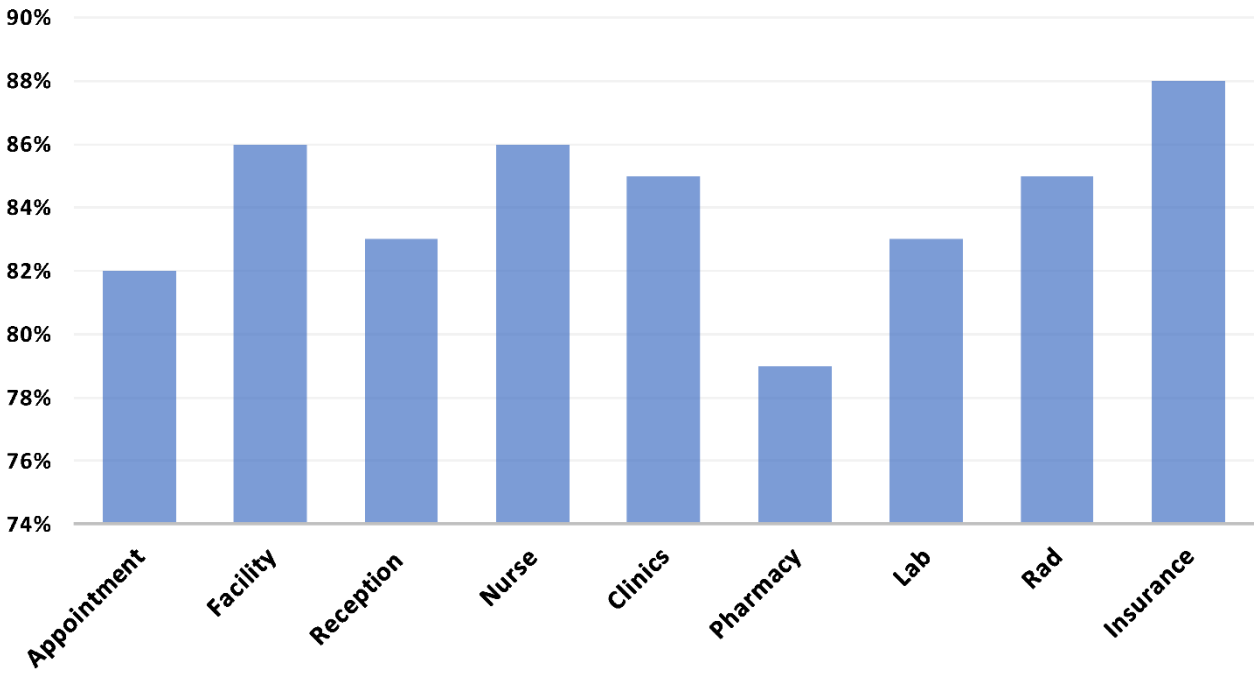

Figure 3. Customer satisfaction rates at different departments.

Although satisfaction rate of patients is not bad, but the feedback of the patients or attendants is always helpful to identify the gaps and plan for effective strategy more precisely in light of their responses and suggestions to improve the quality of services for patients. We also obtained feedback of patients for specific direction at our outpatient clinic. Different suggestions were received and we categorized them into general and applicable point. At reception as mentioned in the previously lines; the patients satisfaction score was 83%.

The reception staff is usually responsible for the checkup of insurance card, membership IDs and appointments. The work done here is to confirm the eligibility of patient, clinic visit/appointment confirmation receipt. In these aspects, either patients showed satisfaction or not, patients' feedback was either cancellation of their appointments before visiting hospital. (Either this cancellation affected other patients' checkup or the patients' feedback was that they cancelled appointment, or the responders reported that they needed to wait longer due to their cancelled appointment).

Clinic pre-requisites are reception of patient and physician/surgeon provide consultation and request further services when needed. The patients' feedback of all respondents who filled up questionnaire, reported poor cooperation of physician or surgeon at clinic as the only concern.

The peoples who were checked in at clinic with having prior approvals from system have to go under referral process and receptionist release their post approval services receipts. At this level, satisfaction report was not available. However, patients complained that system was not completely automated, expected waiting time was not displayed and bugs in the system upon the addition of requests for the prior approval of diagnostic tests. As the main concerns.

After the whole process of checkup, patients need to go the pharmacy to collect their medicine. At pharmacy, after approval is confirmed, staff prepared regimens according to the physician/surgeon prescription. If prescribed medicine is not available, the patients are referred to the reception for further referral of reasonable advice. Patients reported that the unavailability of prescribed medicine and service codes at pharmacy. Also, patients said inefficient use of Q in the system.

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At clinical pathology lab, reception releases the receipt of advised investigations followed by the sampling and other services related to the preparation for sampling for clinicopathological investigations. Overall, patients showed very good satisfaction. But at the same time, they suggested to educate nurses and involve them in proper training to improve their skills.

No further suggestions were received for radiology department and insurance stations and patients' satisfaction was 85% and 98% respectively. It still showed a proportion of patients that were not satisfied, we still worked on the improvements in light of feedback and suggestions for other departments to make sure continuous quality improvement program is functional for the provision of better health services. Framework, satisfaction reports and patients' feedback are detailed in Figure 4 below.

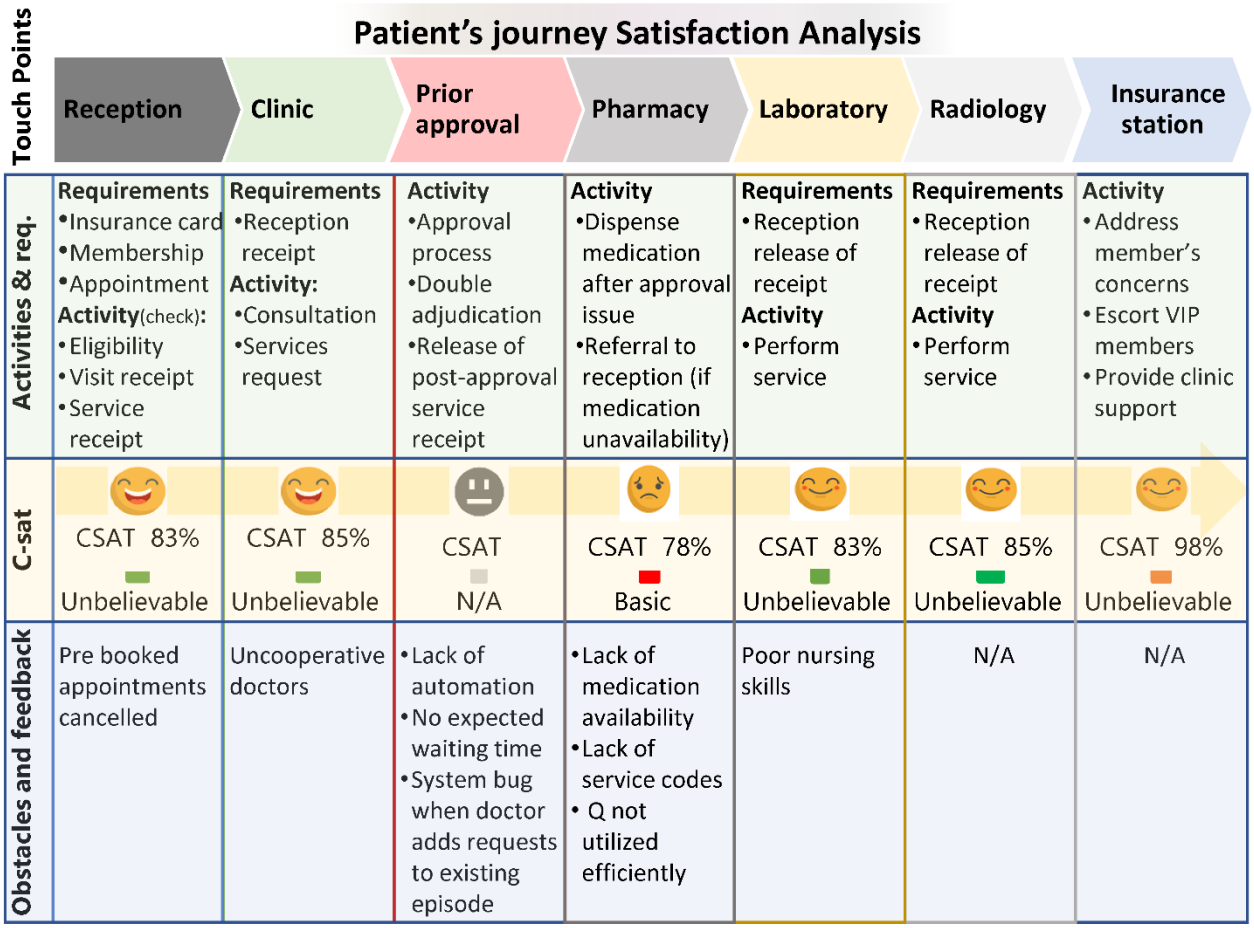

Figure 3. Combined overview view of touch points, activities, customer satisfaction and reported obstacles.

3.3. Root causes of patients' dissatisfaction

A fishbone diagram is a visualization tool for categorizing the potential causes of a problem. This tool is used in order to identify a problem's root causes. Typically used for root cause analysis, a fishbone diagram combines the practice of brainstorming with a type of mind map template. It should be efficient as a test case technique to determine cause and effect [8, 9]. A fishbone diagram is useful in product development and troubleshooting processes, typically used to focus a conversation around a problem. After the group has brainstormed all the possible causes for a problem, the facilitator helps the group to rate the potential causes according to their level of importance and diagram a hierarchy [8, 9].

To find out the root causes of patients' dissatisfaction and an obstacle in the way of exceptional customer service and patients' satisfaction, we used fish bone diagram. We

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used 4 key waste area to future identify the waste causes, the 4 key waste are we worked on are System, Process, people and organization.

1-. System

Under the system we found out three main areas of concern named a) system bugs b) system restrictions and c) SMS limitations.

A -System bugs included absence of work list update with receptionist and auto-adjudicate increase of follow-up records.

B -System restriction, the reported problems include Q system software and lack of waiting time display.

C- SMS limitations, SMS sent to patients do not show the status of request plus there were only two standard replies available, all of these are visualized in the system (Figure 5).

2-. Process

The obstacles found in the process were of two types communication and prior approval. A- communication gap due to lack of detailed explanation of process by the physician or surgeon was reported as the common concern of the patients. Another concern that arose was the lack of communication between pharmacy and insurance department.

B- Prior approval is the other reason found related to the process step. The approval process was dependent non-automated, tiring process of and unnecessary overload of prior approval documentation (Figure 5).

3-. Person

Another dimension that was considered in this study was personnel level issues. It revealed two types of issues. One was cultural concerns or lack of knowledge and system misuse of system.

A-Lack of knowledge related issues are reported to be lack of communication skills on either part and usually attendants did not have a good understanding about insurance policies and usefulness.

B- System misuse concerns were mainly lack of in time update of approvals in the system by the receptionists and the improper or no sealing of medical prescription for the issuance of medicine from pharmacy (Figure 5).

4-. Organization

Fourth site where some issues were found are at the organization level. At this level, two main concerns included availability of the resources and inefficient utilization of staff or improper management patients were reported.

A- Resources availability, lack of available medicines on the setup store and there is no other pharmacy nearby where the prescribed medicines are available. Also, lack of consistency was reported in terms of services codes, lack of insurance office and less dispensing duration i.e. less than one month.

B-People management issues are concerned with the limited awareness about policies of the outpatient clinic. implementation of improper and non-standard or substandard medical services at various points (Figure 5).

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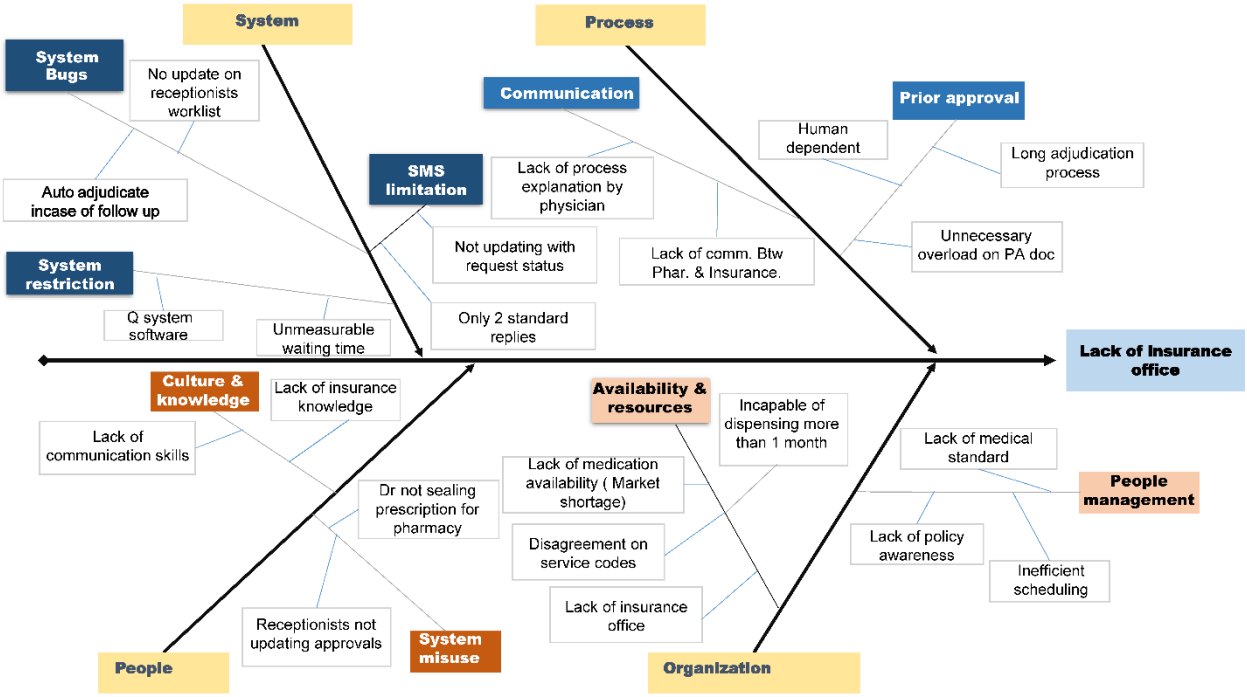

Figure 5. Problems identified in Fish-bone diagram.

3.4. Continuous Improvement Program Application at My Clinic International – Improving Patient experience

Improving patient experience is a key trust as a new entrant into the market. Improving overall patient care is a key for patient accusation and retention. Through many studies, it is quite evident that the best source of acquiring new patients is Word of Mouth, and to generate that force behind this we must continuously understand what our patients and future customer are looking for from us [10, 11]. At our outpatient's clinic, patient has been put at the center of all the product and services designed. In order to ensure that we are following continuous improvement methodologies with updated implemented policies and as per patient demands satisfaction. We designed a plan and implemented and ensure we do the check the efficacy of the implemented model and impact on the patient's satisfaction.

This step plan was developed in to four basic parts named people, system, organization and process. The basic step which involved people management included the maximization of human resource utilization with full capacity to come up with patients demands. It gave us chance to optimize and utilize the human resource in a more effective way. It included the more frequent trainings of staff relevant to their specialty work. For instance, training clinicians to select the patient information more precisely, select available medicine and submit it accurately. Training of receptionists to monitor the updated requests and confirm the to avoid delay. It helped us improvements and reduce the chances of error inside the system. Human resource optimized utilization is aimed to double check the prescription from clinic prior to arrival of the patient at the next station. Also, it has an important purpose to ensure the active communication between clinic and other allied departments. Further comprehensions are given in table 1.

At the same time, to eradicate the systemic errors we improved the software utilized at our clinic and optimized it working capacity along with added more detailed necessary information of the patients or available facilities. It was also aimed to stop the undesired auto-adjustments or auto-selections in the system. It also involved active service status for the patients on requests. Where ever, there was more time delay and patients needed to wait for longer, such as pharmacy, we connected departments to get real-time information of in-que patients. This software was also, updated for barcodes mismatching issue to make sure that code mismatch issue has been resolved effectively. Finally, to facilitate the

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patients with payments, we converted system towards automated payments either through insurance cards or credit cards. Possibly, one of the important modifications that were made is the monitoring of the patients' status at each stage and if one patient is stuck at one point for abnormally longer time then to investigate the issue and resolve that immediately (table 1).

Organization level, leveling and optimization of resources was carried out which targeted to address the issue related with services code, development of key performance indicators of clinical practice, dedicated staff assignment for transaction related issues, review of pharmacy capacity plan and increase its capacity, and more efficient processing and end to end signed insurance office processing (table 1). To improvise and deal with concerns about processing, we developed secure in an efficient and well in time supply of medical items not present in normal stock. Also, it included the efficient management and real time updated inventories, and reprogramed and optimized planning at pharmacy along with re-modified displays on various terms given in table 1.

Table 1. Implemented policies after first phase patients' feedback and solutions with rigor.

Category	Counter measure	Task	Priority	
People	Maximize people's capacity utilization	Formulate a taskforce to secure TOB training to all responsible staff	M	Done
		Conduct Technical skills training for optimum system utilization. All doctors should have access/ proper training to use the system specially in prescribing medications to avoid technical errors/ more delays in the pharmacy	H	Done
		Ensure fulfillment of the prescribing requirements to make sure the completion of Prescription (manual/ Electronic) prior reaching the pharmacy	H	Done
		Ensure Proper communication between pharmacy/ Medical team in case of any required information/ change on both levels. Service coordinators to support in case of no reply.	M	Done
		Soft skill training for all pharmacy team on customer service	H	Done
		Technical training program on all Retail products	H	Done
System	Eliminate system errors and more software utilization.	Develop Queuing system software	H	Done
		Develop full patient journey monitoring	H	Done
		Redesign "MY operation" to eliminate wrong auto-adjudication upon a follow up episode	H	Done
		Check system capability for TOB setup	M	Done
		System Flag uncovered Medication at POD		
		System integration on pre-Auth level: Minimize processing Time, minimize human errors, minimize the manpower required to run the Insurance office in MC	M	Done
		Full SMS communication with members on the request status	L	Done
		Pharmacy/ Integration of Clinical Support software: to Integrate the Lexicomp /UpToDate with pharmacy & Clinical AppLonger dispensing time to ensure Patient safety (Drug Interactions / drug dosing safety…etc.) --- Impact 3 Min web browsing	H	Done
		Pharmacy/ Barcode & Batches: Automate barcode scanning, rule out improper barcode reading of a batch, selection from a drop-down list in	V.H	Done

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		both AX & POS for ALL items. Patient Safety to select same dispensed batch + Increase dispensing time --- Impact 1 Min		
		Pharmacy / Payment issues Mixed Payment of self & Insurance integrate the Credit/ Debit card readers to the AX/ POS to have an automated payment. --- Impact 2 Min	V.H	Done
Organization	Leveling and optimizing resources	Resolve Service codes issues of Pharmacy	V.H	Done
		Develop clinical practice KPI	H	Done
		Assign dedicated staff (admin) to handle preauth related transactions only.	M	Done
		Review the capacity plan - Pharmacists schedule	M	Done
		Design and share the end to end signed off insurance office process.	V.H	Done
Process	Automated back end insurance office	Secure supply for all unavailable medication in stock in a timely manner	H	done
		Optimize inventory management for medications	H	Done
		Re Modify the Pharmacy planogram in order to have an improved display for all newly added Retail SKUs for more enhancement on Retail sales	H	Done

Abbreviation: VH: very high or top priority; H: high priority; M: medium priority; L: low priority.

3.5. System display and preliminary evaluation

After successful implementation of the project, the KPI and monitoring was set as an established process to ensure the performance is measured, communicated and any deviation in the process to be improved. The main cell display of the system is shown below. Which shows number of patients with waiting time at various stages and flow of the work at this set up through live dash board. Besides of that we calculated the percentages of patients at various points and time interval with real time monitoring and are shown below (Figure 6).

Figure 6. Real time display and frequencies of patients at different stages of visit along with time.

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After successful installation and implementation of our new updated plan of action designed under the light of patients' response. We have included results of initial three months here as an encouraging outcome. We found that patient satisfaction on the pharmacy touchpoint increase from 78% to 89% just within 3 months.

These data show that our updated plan has improved the satisfaction rate of patients from 83% to 88% at reception with in the initial three months. The careless nursing was one of the frequent problems, after our improved plan of action with guided continuous quality improvement on patient direction and feedback, nursing services were improved and satisfaction rates of patients improved gradually in these months from 92% to 96%. Patients satisfaction showed almost no change at clinic that may be the possible clinician need to follow the diagnostic standards that common public do not understand. Further, the most of the people commented negatively about the facility of pharmacy which became an important issue and needed the urgent attention for resolution of patients concerns. After certain modification, we observed more than 10% rise (patient's satisfaction reached 89% as compared with the 78% satisfaction from data older than three months) in the patient's satisfaction within 3 months of modified serving policy with patients demand oriented services. Similarly, higher patients' satisfaction is observed for pathology laboratory and radiology departments, which reached 88% and 90% from 83% and 85% respectively. While, sudden decrease in satisfaction on insurance from 98% to 78% just after one month and then gradually increased

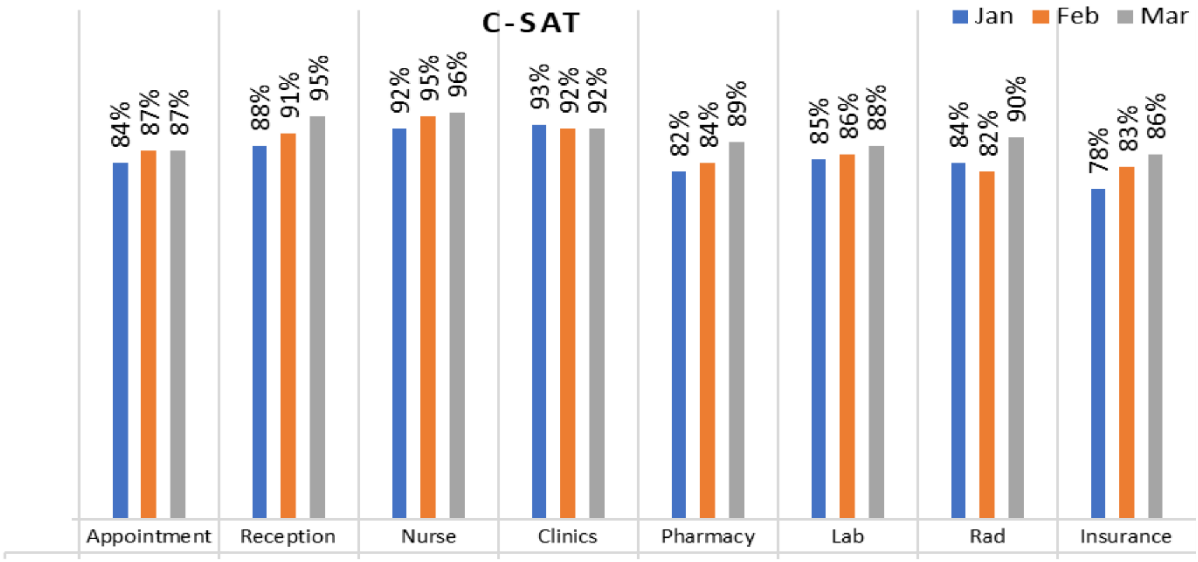

Figure 7. Post-updated action implementation patient satisfaction.

4. Future prospect and conclusions

Taken together, this study shows that patients feedback inspired policies improves the patients experience at outpatient's clinic and also have great impact on patient's satisfaction. In addition, system automation and countercheck and real time updated technologies are inevitable at outpatient clinic to connect clinics, diagnostic laboratories, pharmacy, etc. departments at the real-time for high quality services. As after the implementation of revised policy and updated services, the time duration is shorter, so the participants of the study are smaller too. Possibly upon the long-term data results may not be precisely consistent with three months data. To reduce this ambiguity, we have planned to evaluate the results of patients' feedback after specified time. We will also consider further factors to explore, such as insurance type and patient's satisfaction for that survey outcome as well.

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Institutional Review Board Statement: We didn't used any patient names, social status, the data used is only counts and times, averages etc no personal information is shared in the paper

Informed Consent Statement: No personal patient information is shared in the paper, no consent needed

Informed Consent Statement: Patient consent is waived off as no patient personal, social, or demographic data is shared in the paper

Data Availability Statement: Data is contained within the article in different forms and can be requested as well in other formats through corresponding author.

Conflicts of Interest: the authors declare no conflict of interest

References

1. S.A. Khan, M.A. Kaviani, B.J. Galli, P. Ishtiaq, Application of continuous improvement techniques to improve organization performance: A case study, International Journal of Lean Six Sigma 10(2) (2019).
2. C. Doyle, L. Lennox, D. Bell, A systematic review of evidence on the links between patient experience and clinical safety and effectiveness, BMJ Open 3(1) (2013).
3. B.J. Galli, M.A. Kaviani, The Impacts of Risk on Deploying and Sustaining Lean Six Sigma Initiatives, International Journal of Risk and Contingency Management (IJRCM) 7(1) (2018) 46-70.
4. G. Shang, S. Pheng, Understanding the application of Kaizen methods in construction firms in China, Journal of Technology Management in China 8(1) (2013) 18-33.
5. R. McLean, J. Antony, Why continuous improvement initiatives fail in manufacturing environments? A systematic review of the evidence, International Journal of Productivity and Performance Management 63(3) (2014) 370-376.
6. S. Indrawati, M. Ridwansyah, Manufacturing Continuous Improvement Using Lean Six Sigma: An Iron Ores Industry Case Application, Procedia Manufacturing 4 (2015) 528-534.
7. J. McCalman, R. Bailie, R. Bainbridge, K. McPhail-Bell, N. Percival, D. Askew, R. Fagan, K. Tsey, Continuous Quality Improvement and Comprehensive Primary Health Care: A Systems Framework to Improve Service Quality and Health Outcomes, Front Public Health 6 (2018) 76.
8. S.S. Chudiwal, M.H.G. Dehghan, Quality by design (QbD) approach for design and development of drug-device combination products: a case study on flunisolide nasal spray, Pharm Dev Technol 23(10) (2018) 1077-1087.
9. H. Fujita, K. Doi, H.P. Chan, M.L. Giger, E.E. Duda, Dynamic and static phantoms for evaluation of digital subtraction angiographic systems, Radiology 155(3) (1985) 799-803.
10. B. Prakash, Patient satisfaction, J Cutan Aesthet Surg 3(3) (2010) 151-5.
11. J.S. Berg, J. Dischler, D.J. Wagner, J.J. Raia, N. Palmer-Shevlin, Medication compliance: a healthcare problem, Ann Pharmacother 27(9 Suppl) (1993) S1-24.