Improving Waiting Time and Patients' Experience in a Medical Retina Clinic

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Abstract

The aim of this project was to reduce patients’ waiting time and increase level of patients’ satisfaction by improving patient flow pathway and service capacity in the medical retina clinic. The change project was conducted due to the high demand on this clinic as there is expanding need for the intraocular injection across the United Kingdom, resulting in long waiting time affecting patients’ satisfaction. Thus, a need had been raised to enhance the capacity and utilise the provided services by analysing the best ways to increase the number of patients receiving the intraocular injections per session and to reduce patients’ waiting time with improving their experience. Patient's pathway was redesigned in more efficient way where unnecessary steps and delays were removed. The Health Service Executive change model was selected to structure the project's steps as it is nonlinear model which allows flexible movement with adjustment of the change process at any time. Several evaluation methods were used in this project before and after the change. A total of 100 patients questionnaires which included information on waiting times and patient satisfaction were distributed during two times period in the retina clinic. Streamline patient's flow through process mapping along with time measuring and waiting time data were done after observing patient’s journey in addition to Kirkpatrick Evaluation Model for training and informational session. The main result of the implemented change was doubling number of patients receiving the injection at same time so the average waiting time was reduced from 120 minutes to 60 minutes (±10minutes) which led to raise patients' satisfaction to 90% (n=45) where 50% (n=25) were not satisfied with long delays before the change. In conclusion, the change project was successfully implemented in the retina clinic due to the strong management support and the effective collaboration between the stakeholders.
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Chapter 1

1. Introduction:

1.1 Introduction:

Establishing and managing changes in healthcare sectors is challenging due to the complexity of the environment and the relationships within the organisation (NICE, 2007). It is the job of handling the process and making sure that the induced change is valuable (Al-Abri, 2007). Although many barriers may stand in the way of inducing change in healthcare organisations, several factors can foster its continuation and help in making it succeed such as having strong leadership, concentrating on patient’s safety and focusing on improving the level of care (NICE, 2007), and all play role in breaking the boundaries and empowering the staff to carry on the modifications. Implementing change in healthcare organisation may take long time; however, it can produce positive results even if the change was small. (Al-Abri, 2007; NICE, 2007)

This chapter will focus on the organisational context where the change project was implemented, the reasons for doing the change and its aim and objectives.

1.2 Details about the Organisation and the Context of the Change:

This project was implemented in Ophthalmology Department of a National Health Service (NHS) Foundation Trust Hospital. This organisation is one of the well known in London, consisting of two large hospitals with different departments and medical specialties. It presents itself as a major emergency and specialist hospital in the
country. Each year, more than two million patients visit its various sections including; Community services, Inpatients, Outpatients and Accident and Emergency. It contains more than 1,000 Inpatient beds. There is around 13,200 staff working in this organisation, 1,343 undergraduate doctors, dentist and nurses, 533 postgraduate doctors and dentists, in addition to lots of trainees.

The ophthalmology department offers wide range of Outpatient, Surgical and tertiary services for eye diseases and its related structures. The Outpatient section in eye department contains five clinics, each one responsible for different sub-specialties.

Organisational culture influences the working flow and the way which people act together and with stakeholders, so it is important to understand the organisational culture before conducting change in any area (Francesco & Gold, 2005). The culture web by Johnson and Scholes (2011) (Appendix 1) was created to analyse the six main factors playing role in the organisations’ culture which include: stories, symbols, rituals and routines, power structure, organisation structure and control system. In my organisation, stories are about being a high quality, high performing and inventive complementary academic healthcare organisation and becoming the main centre providing the best specialist services and research in the country. The symbol of the trust is the NHS logo which links to the one of the most powerful healthcare organisations. Regarding rituals and routines, patients’ expectation is high as they look forward to receive the best services and treatment since this organisation is considered as one of the best NHS trust in the area, so the managements are focusing all efforts to achieve these outlooks and they apply the NHS standard and policies in each departments to solve any matter.
Lastly, control system and organisation and power structure are presented in a hierarchal structure where there is a leader for each team. Starting with the highest level, there is board of trustees in charge and manages all financial issues. They assign Chief Executive Officer (CEO) who has the role of managing the foundation spending and directing the Medical Director who manages clinical leaders and heads of each department who supervise the staff in their sections.

For example, the ophthalmology department is managed by Head of eye department and a Clinical Leader. They answer to the CEO through the Medical Director. Below them a Service Manager in charge of the team workers, consisting of Research and Clinical Audit Lead, Doctors, and other staff such as Orthoptists, Optometrists and Nurses and all of them serving patients as shown in Figure1.

**Figure1: Structure of Ophthalmology Department**
There is an obvious interactive working environment, however, each team leader focuses on certain goals with ultimate target being patients’ health, safety and integrity. All managers are following the organisation’s values and understanding the importance of giving patients the priority, respecting all people, working with honesty and trying hard to be the best. Furthermore, the Quality Improvement along with the Research and Development departments are controlling the operations and the processes based on specific tools and policies. According to this cultural analysis it is noticeable that, the foundation has strong hierarchal structure. It is a governmental trust, non profitable organisation which operates in high level based on NHS guidelines and standards.

1.3 Rational for Carrying Out the Project:

The medical retinal clinic in my organisation is the busiest clinic in the eye department. Most importantly serving the community for both Diabetic Retinopathy monitoring and Wet Age-related Macular Degeneration along with other conditions which require specialised management. In addition, treating patients with intraocular injections, which are administrated in the eye to cure certain retinal conditions, falls under medical retina clinic responsibilities. Recently, there has been an increase in the demand on these injections nationwide where patients need monthly monitoring appointments for several years. The biggest challenge of medical retina services across the UK is to accommodate all patients and increase capacity (The College of Optometrists & The Royal College of Ophthalmologists, 2013). Due to high demand on services of this
clinic, many patients were complaining of long waiting times and delays for seeing the ophthalmologist and receiving the intraocular injection.

By mere observation, patients were spending hours each visit to get the usual consultation and treatment and to finish their appointments. Although there is no standard for the proper average waiting time in the retina clinic, according to Campbell’s study, waiting time longer than 15 minutes counted as one of two factors which resulted in 94% of patients’ dissatisfaction (Eilers, 2004). Furthermore, it is necessary to take into consideration that our patients are old, mostly over 60 years old, with chronic conditions and should receive the intraocular injection regularly to maintain their visions (The College of Optometrists & The Royal College of Ophthalmologists, 2013). Most often, as they suffer from vision difficulties, they need company to help them attend the appointments and take them back home (Lliffe et al., 2013). So there is time consumption for patients and their assistants.

Moreover, a recent move within the organisation aims to increase the service capacity, and make the best use of the available resource and provide patients with better experience, aiming to be the leader in quality and reducing harm in England. One of the leading projects in the trust is the Golden Hour project, a new idea that is planned to be established in the outpatient departments to improve the quality of service, achieve the organisational vision and reduce the total time patient spends in clinic to only one hour. It is just a plan but supports the need to conduct the change project since it reflects the organisational interest in improving patients’ waiting times and experience.
Based on all of the above and after discussing the idea of change with the head of the ophthalmology department, an urgent need has been raised to analyse the best way of reducing patients’ waiting time and improving their satisfaction. Also to produce a plan to increase the number of patients receiving intraocular injections per session in aim to improve the service efficacy and fulfil patients’ needs. Taking into account that most delays in healthcare systems are from poor utilisation of available capacity when there is big demand on a service, which may not be due to shortage of the resources (The Health Foundation Inspiring Improvement, 2013).

1.4 Aim and Objectives:

1.4.1 Aim:

Reducing patients’ waiting times and increasing patients’ satisfaction by improving patient's flow pathway and service capacity in the medical retina clinic.

1.4.2 Objectives:

- By March 2015, the number of patients receiving the intraocular injection at the same time per session in the medical retina clinic will increase from 1 patient to 2 patients.
- The average waiting time in the medical retina clinic will reduce from 2 hours to 1 hour by March 2015.
- By February 2015, all multidisciplinary team participating in patients’ flow pathway in the medical retina clinic will have attended the informational session on the implemented change.

- By March 2015, 100% of patients attending the medical retina clinic will report being satisfied or very satisfied with the improved service.

- Observing patient flow, measuring waiting times and filling patients questionnaire will be completed in the medical retina clinic by October 2014 to identify the area of improvement and will be repeated by March 2015 to evaluate the implemented change.

1.5 My Role in the Organisation and the Project:

I am working as an observer, auditor and researcher in the outpatient Medical Retina clinic in the ophthalmology department. My main role is to carry out audits, measure the current services, search for improvement and present ideas then help implant them and measure the outcomes. Based on my working nature, the idea of initiating change project in my organisation for my graduation thesis was accepted and welcomed by the managers of the eye department. They recommended me to choose this topic since it is the main aim in the medical retina clinic and to achieve the trust vision explained earlier.

In this project, I am the changing agent; my main role appeared in several steps: First, I discussed the idea of the project and the need for implementing a change with my sponsor in the hospital to give the full image on the assignment. Second, I observed the normal practice in the clinic. Third, Depending on the results, I suggested modification and changing action that could be applied in the pathway to reduce delays, enhance the
capacity for injecting more people and increase their satisfaction. Each step needed to be reviewed by the authorised person in each level to be approved. Moreover, I held several meetings with the key stakeholders and I ran an informational session for the staff to clarify the new implementation and its benefits to encourage them to follow the new way and reach our objectives. Finally, when the change was implemented in the clinic, I reevaluated it to compare the findings and ensure reaching the main target.

1.6 Summary:

In this chapter, the organisational culture analysis helped in understanding the real situation and gave an idea on how the change should be carried out in successful scheme. The rational for the project resulted in certain aim and objectives which was highlighted to focus on the steps and to target the goals.

In the coming sections, Chapter 2 contains literature review to give evidence supporting the chosen change. Chapter 3 represents method and methodology used based on a change model and rational for its selection. Chapter 4 shows evaluation of the change process and its results by using certain tools. The final Chapter 5 contains discussion and conclusion on the findings, explains the organisational impact of the project and provides some recommendations for future improvement.
Chapter 2

2. Literature Review

2.1 Introduction

Literature review aims to support the conducted study within the literature body and provide evidence for reader by searching in certain areas of interest in books, published articles in journals and websites (Lamb, 2013). Also helps the researcher to emphasise on the importance of the study, focus on relevant topic, compare between different ideas and methods of work as well as reflects the need for further research (Randolph, 2009). In this project the literature review was done to realise the aspect of the change in better way, compare relevant information, support the findings, provide evidence on the best evaluation tools, highlight on similar area of argument, create full image on the required change to support the importance of doing the project, as well as, to get benefit from any suggestion to achieve successful change (Mays et al., 2001). The process of reviewing and writing the literature review could be found complicated so it is useful to work in organised way and follow specific plan which makes tracking articles, reading materials and notes much easier (Shield, 2006).

Long waiting time is considered as one of the most common matters in different departments in the majority of healthcare organisations (British Columbia Medical Association, 2006). It forms serious problem for bulk of patients and is recognised as the central element for their satisfaction (Eilers, 2004). Nowadays, Patients' experience is documented as one of the major factors of healthcare quality in the NHS together with safety and effectiveness (Sizmur & Redding, 2009). The objective of this review is to inspect and assess the literatures relating to reduce patients’ waiting times and increase
patients’ satisfaction by improving patient's flow pathway and service capacity in healthcare. A detailed study of similar topics was done to show the impact of patients’ delays on their satisfaction degree, to understand the connection of long waiting with patient's journey and to collect some solutions for similar cases.

The key themes and words for the literature review were: Improving patient's flow pathway, mapping process, impact of waiting time on patients’ satisfaction, reducing wastage, questionnaire, organisational change, improve quality of care, clinical governance, organisational culture and resistance to change. Those key elements were passed in the search strategy which helped in identifying the main themes and underlining its correlation with the project as it will be outlined in this chapter.

2.2 Search Strategy:

The literature review was done by profound searching using Google, Google Scholar, Emerald data base website, NCBI- Pub Med (US National Library of Medicine National Institutes of Health), MEDLINE (Pub Med) databases and Science Direct, CINAHL, Mendeley, Institute of Healthcare Improvement (IHI), National Institute for Health and Clinical Excellence (NICE), National Health Services (NHS) Institute for Innovation and Improvement, Nuffield Trust (an authoritative and independent source of evidence-based research and policy analysis for improving healthcare in UK). It based on using the mentioned search terms specially reducing waiting time and wastage, improving patient's flow, patients’ satisfaction and quality of care as well as clinical governance.
The selection of articles was started by choosing the evidence based articles and some reports. All articles which focus on patients’ satisfaction in healthcare organisations and capacity issues were included. All were written in English with no limitation to specific country. Majority of the chosen articles were done locally in the United Kingdom but there were others completed in United State, Singapore, Nigeria and India. All published from year of 2000 to 2014. The search based on selecting the resent articles to cover the most updated information but extended to the last 15 years to cover all required information.

Any comments or letters were excluded from the search as they did not add any value for this project and there are lots of articles available. Also financially and funding related papers were excluded from the search, as they were irrelevant to this thesis. Each piece of writing was read carefully to evaluate its values and to be classified into main themes. A total of 25 articles that related to the main themes of the project were chosen to be included after careful reading all abstracts and contents.

2.3 Review of Themes:

Three main themes were identified in the search. First one was The Impact of Waiting Time on Patients’ Satisfaction; the reviewed articles presented the negative effects of long delays in healthcare and the relation between waiting time and patients’ happiness in different organisations. Second theme was Improving Patient’s Flow, Reducing Wastage and Improve Quality of Care. The reviewed articles identified the methods of enhancing patient’s pathway and its benefits on reducing wastage and improving the
quality of care. Last theme was Clinical Governance which reviewed the possibility of developing the quality of healthcare in aim of enhancing patients’ experience.

2.3.1 The Impact of Waiting Time on Patients’ Satisfaction:

All studies in this theme showed there is negative relationship between long waiting time and patients’ satisfaction and almost all articles used quantitative method to evaluate that relation, such as direct patient interview, survey or filling feedback. Most of these studies were followed by statistical analysis to compare the results before and after applying a change in healthcare organisations.

According to study done by Harnett et al. (2010) to improve efficiency and patients’ satisfaction in a preoperative evaluation clinic in US, 872 patients questionnaires were distributed in two time periods. There was a very low satisfaction due to waiting time in first period. This was the most negative survey level as patient spent about 1 hour and 32 minutes in average. The implemented changes were modifications in clinical processes as well as education lectures for the staff to enhance patients’ services. The waiting time was significantly dropped from 92 ± 10 minutes to 42 ± 5 minutes with significant improvement in patients' satisfaction with minimal cost impact as result from the alteration.

Furthermore, 384 patients participated in a questionnaire at the out patients’ departments (OPDs) in study of patient waiting time in tertiary health institution, the Usmanu Danfodiyo University in Sokoto, Nigeria to assess their satisfaction. It showed, most of patients waited more than one hour to be seen by the doctors while only 118
(31%) stayed less than an hour and out of them around 83 (70%) were satisfied. However, majority of patients 173 (45%) were dissatisfied with the services in the OPDs because of the long waiting time (Umar et al., 2011).

Waiting time was measured in both articles and was linked to patients’ satisfaction which was estimated by distributing questionnaires. These evaluation methods are important to be used in the change project to show the average waiting time in the retina clinic and level of patients’ satisfaction before and after the change. The earlier study showed that, modifying clinical practice led to improve patients’ happiness and reduce delays. Also it represented the influence of training sessions and meetings in succeeding the change. Meeting with the retina clinic staff and educating them with the change project can help in producing the change and achieving the required outcomes.

The second article shed the light on delays’ impact on patients’ satisfaction with provided services. This point needs to be measured in the study.

Health learning activities could affect patients’ satisfaction as Umar et al. (2011) found in the tertiary health institution where waiting time before seeing the physician was calculated. The majority of patients watch television or observe the situation in the clinic. Only 63 (16%) of the participants attended health education session. On the other hand, in eye clinic in the US, 100 patients were checked their satisfaction after dividing them into two groups; one of them received an educational intercession while waiting where others passed the usual clinic care without any education. It was concluded that, the group which underwent the intervention got more knowledge about eye diseases and resulted in more satisfaction compared to other patients without learning during their visit (Oermann et al., 2001).
Educating patients during waiting in clinics is good idea as appeared in these articles. It can help them to gain some knowledge on their diseases and utilise the waiting time in useful way. It may increase their satisfaction degree as found in the latter study. These outcomes are not applied in any eye clinic in the organisation; however, it may be suggested to be introduced.

In the US, 5030 online surveys were sent to patients to evaluate their primary care physician as well as to note the waiting time in the clinic and the period spent with the doctor. The study aims to focus on the link between these parameters. The results showed that, overall patient satisfaction highly influenced by shorter visit time particularly (Anderson et al., 2007). Similar outcomes were found by MIT Sloan team (Massachusetts Institute of Technology in Cambridge, US) who were responsible to investigate the reason of long waiting in OPD clinics at LV Prasda Eye Institute (LVPEI) in Hyderabad, India. This study was conducted to understand patient waiting times. Patients suffered from obvious delays vary from 45 minutes up to 6 hours which put high pressure on the staff by working extra hours. In addition, it made patients continually bored and anxious. All of these played roles in patients’ dissatisfaction and decreased clinics’ reputation as found in patients survey (Kamil & Lyan, 2013).

Ogunfowokan and Mora (2012) believed that, satisfaction is very important in healthcare organisations as it is the measurement for quality of services. Based on that, they carried out: Patients’ experience at National Hospital Abuja (NHA), Nigeria. To measure the gauge of patient satisfaction by distributing a questionnaire and to investigate the time spent per visit in the general OPD. The results were as following: the average total waiting time was 2.7 hours in range of (10 minutes – 7,2 hours), the patient spent 1 hour
to be called to see the physician only. Out of 270 participants, most of them 196 (72.6%) described the clinic encounter as long or too long which dropped the overall satisfaction to poor. Regarding patients’ expectation, the majority 154 (57.2%) patients met their thoughts for the visit. However, those who found the appointment lower than their expectation, which they made before their appointments considered the service as poor. On the other hand, 250 patients were satisfied with doctors’ service quality.

Patients’ satisfaction influenced by many factors as concluded from the above articles including length of seeing the physician, patients’ expectations and hugely by long delays. Kamil and Lyan study (2013) also showed the impact of long waiting on the staff as it increased the working load. In addition, it made patients uncomfortable. Reputation of healthcare organisation was also influenced by waiting times.

The reviewed articles under this theme highlighted the need for measuring the total waiting time in the retina clinic, the time needed for seeing the physician as well as patients’ satisfaction and reputation to understand the real want for the change and evaluate the outcomes.

2.3.2 Improving Patient Flow, Reducing Wastage and Improving Quality of Care:

The studies in this theme present the relationship between improving patient’s flow and their experiences. Moreover, they include the use of the available capacity in effective ways and represent the impact of changes on quality of services and outcomes. In almost all reviewed articles, the researchers relied on assessing the process and
measuring the time movement by observing patient’s journey or involving stakeholders to discover the area of problem and identify the required change.

Flow Cost Quality Improvement program was developed by The Health Foundation (2013) to find out the link between patient’s flow, cost and its consequences in emergency departments of two NHS hospital trusts in the UK. The new technique created solutions for utilising the capacity in better ways and reduced long delays which could be applied in any organisation. They believed that the essential solution is using patient’s flow to increase the effectiveness of care in practice, decrease wasted time and enhance overall system quality, in addition to improve customer and staff experience (Jones & Pereira, 2013). Clinical procedures and patient’s pathway analysis resulted in changing the clinical process in a tertiary teaching hospital preoperative clinic in the USA. Furthermore, measuring average waiting and collecting patients survey in two cycles represented the improvement of the modification as explained in Harnett et al (2010) article in the first theme. Parallel to that, a study by Pons (2012) of Improving patient flow through an eye clinic In US, concentrated on the importance of making change in patient’s journey by time management and utilising the resources in better way. The change resulted in eliminating waste, speeding up the movement, attracting more people, enhancing the use of the space and reducing cost with increasing its recovery. In that clinic there were continuous investigations of patient flow and bottlenecks which helped in making wide improvement. Also, it facilitated initiating a change depending on patient values followed by making a decision whether the operation can lead to best outcomes or not.
These studies illustrated the benefits of mapping patient’s journey in detecting the bottleneck and the wastage in the pathway which resulted in finding solutions. Applying new technique, utilising the available capacity and time management led to reduce cost and delays. These improvements increased staff and patients’ satisfactions as well as enhanced overall system’s quality.

Since long waiting time is the main problem in the medical retina clinic, mapping patient’s flow can demonstrate the main bottleneck in the process. It can help studying the capacity of the treating room and the available resources. Moreover, it will show the exact area for making the change in aim to reduce waiting and enhance patients’ experience.

Similar examinations of patient movement and work flow was done by Ho (2014) at Singapore General Hospital to improve waiting time and operational clinic flow in a tertiary diabetes centre by optimising the process and rearranging the time. Although the turn-around time (TAT) had just dropped from 108.23 minutes to 106.6 minutes, the percentage of patients seen by doctor increased 4% within 60 minutes and there was 36.6% reduction in waiting time at the cashier. Furthermore, 33 feedbacks were collected from direct patient interview to check patients’ needs before and after conducting the change. This study showed the advantages of mapping patient’s pathway in implementing change in a clinic. The author also used patients feedback to evaluate the results prior and after the change. There was no significant reduction in overall time; however, the modification decreased delay in one stage of the flow. The main point in this study was the increase in number of patients seen by doctor. This is
one of the major objectives of this project so mapping patient movement and implementing a change can increase the capacity of injecting patients in the clinic.

Outpatient Appointment Reminder System (OARS) was initiated to help in rescheduling the appointment which succeeded in decreasing the non attending rate from 30.2% to 21.3% (Ho, 2014). After understanding patient’s flow and interviewing the stakeholder and operation professors to investigate the reason of long waiting in OPD clinics at LVPEI, MIT Sloan team enforced adherence to the OARS to reduce delays (Kamil & Lyan, 2013).

MIT Sloan team studied patient pathway and they met with the stakeholders and the staff. OARS was the implemented development in Ho (2014) study and was recommended in Kamil and Lyan (2013) article.

The Reminder system is used in our trust but still there is delays in the retina clinic so it is not enough to reach our aim. On the other hand, the steps of meeting the stakeholders and the staff in the injecting room may aid in recognising the reasons beyond waiting.

Case studies on reducing delays were done by the NHS Institute for Innovation and Improvement for Improving Patient Flow in the NHS in time period between years (2000 and 2007) at various departments of healthcare organisations in the UK. All of them succeeded in finding the bottlenecks and eliminated the unnecessary movement, delays or wastes in patient’s pathway by applying mapping analysis method.

Ealing Hospital NHS Trust in the UK participated in Improving Partnership for Hospital Programme in April 2003 to advance outpatient care, emergency and orthopaedic. The study was mainly done in radiology department to detect the differences between the
capacity and the need by decreasing bottlenecks and waiting in the analysed patient map flow. Significant reduction in waiting time was the result of this study (NHS MA, 2004). Similar investigation in patient journey was done at Bolton Hospital Abdominal pain department which resulted in removing pointless steps and waits with relation to costs (NHS Institute for Innovation and Improvement, 2006). Moreover, in Orthopedics department, 377 persons were implicated in a study where a new system based on patient values was developed to eliminate any waste and long delays in patient’s journey (BICS, 2007).

Those studies presented different cases of reorganising patient’s flow and reducing unnecessary delays and wastes in the pathway. The later one mentioned introducing new system in patient’s journey to reduce delays also based on patient value. This was the similar strategy which Pons (2012) used in initiating change in the eye clinic in US. It should be considered in the retina clinic as it is linked to the trust values. All mentioned methods can be studied in the project to find the suitable solutions.

Other significant improvement in reducing waiting times and increasing the capacity of outpatient clinic was made at Grantham and District Hospital, United Lincolnshire Hospital NHS Trust where patient’s flow was redesigned and new nurse role was established. This led to increase the number of patients who were seen by physician per week up to 20 patients more than previous, also the quality of care and patient satisfaction were enhanced. Furthermore, 60% of outpatient waiting time reduced in Gynecology section at Torbay Hospital, South Devon Healthcare Trust. In addition, the waiting list size minimised by 18% while the referrals increased up to 14% when the results of April-July 2006 were compared to those in April-July 2007 due to focusing on
the resources along with organising the performance in patient’s movement after measuring all times spent in each step of that journey (NHS Institute for Innovation and Improvement, 2007).

These cases represented the influences of organising patient’s flow on reduce waiting time and improving the capacity of the clinic. Rearranging patient’s pathway and adding new nurse role in the earlier study improved patients’ experience, the quality of care as well as the capacity of the outpatient clinic. Moreover, more patients reviewed by doctors after the change. One of the key strategies for increasing capacity may relate to nurse led role and redesign the pathway. Mapping and analysing the process in the retina clinic will show the possibility for applying these options. However, introducing new nurse role will be difficult due to the organisational culture, cost and training needs and may require long time which cannot be done in this project. Measuring times spent in each step of the process was also one of the useful methods to detect the main delays in patients’ visits. At Grantham and District Hospital, this method used to compare the results before and after change together with mapping process. Also, increasing the referral amount and reducing delays showed the benefits of the implemented change in this study.

In this project, calculating times of each step will be useful as it can help in highlighting the area of main delay and evaluating the outcomes.
2.3.3 Clinical Governance:

Clinical governance earlier was expressed as a new system to ensure whether the clinical standards are met or not (Starey, 2001). It is a framework established by the NHS in 1997 to maintain and improve the quality of care in healthcare and became policy tool for developing high quality by integrating performance, financial and clinical quality (Som, 2004). It is a technique for continued improving quality of care in NHS services by developing the best environment in healthcare organisations to reach the highest care level (Chang et al., 2013)

Quality is the heart of the clinical governance. Professionals defined it to give the right service to the right person at the right time while patients believed they are not qualified enough to evaluate the technical quality, so they measure healthcare in way which reflect their practice (Nicholls et al., 2000). In 1983, the World Health Organisation (WHO) expressed the high quality term in four main elements including: professional performance, patient satisfaction, resource allocation and risk management (Penny, 2000). As the structures, management and processes of healthcare organisations are very complex and require huge modifications (WHO, 2000). Clinical governance is considered as complete system for cultural change which works on improving organisational abilities to achieve maintainable, patient focused, quality guaranteed healthcare. It is an opportunity to break bonds of too hierarchical and inflexible culture and push people towards more interactive, teamwork and reflective working environment. An active relationship between patients and practitioners is very necessary and professional must look to the situation by patients’ eye and listen to patient who tells the reality to reach the required culture (Nicholls et al., 2000; Som,
2004). So the clinical governance has been defined as the most high-status tool for ensuring culture change in the new NHS (Degeling et al., 2004) to reach a reflective, none blame, questioning, learning culture and admirable leadership where staff are supported and to understand what was the mistake rather than to find the responsible person. This would lead other people to not make the same error and to progress the safety of the clinical atmosphere through following strategic quality plans, patients involvement and method of management (Davies, 2002; Halligan & Donaldson, 2001; Nicholls et al., 2000).

Som (2004) proposed a definition for clinical governance to cover its wide principles especially the management of Inputs (e.g. Financial resources), Structures (e.g. Clinical Governance Committee, Education and Training) and Process (e.g. Staff training, regular data collection, acting towards patients feedback...) in aim to achieve the Outcomes of healthcare services for improving the clinical quality (Including: Patient satisfaction, decreasing delays, enhance cooperation between workers and managers).

For running a successful culture in any organisation it is very important to have the capability to measure the effectiveness of its quality of services such as: turnaround times and waiting times as well as decreasing waste by cutting off unnecessary steps and procedures (Halligan & Donaldson, 2001).

Creating strong successful clinical governance requires firm base containing five main cultural elements: teamwork, communication, ownership, systems awareness and leadership where the seven “Pillars” (clinical effectiveness, risk management effectiveness, patient experience, communication effectiveness, resource effectiveness, strategic effectiveness and learning effectiveness) are fixed to support the patient –
professional partnership as shown in the temple diagram (Appendix 2). Teamwork is an essential factor for working in healthcare organisation to reach a high quality performance. Effective communication is critical method to deliver the accurate information in easy way to the receiver to facilitate using it properly. Ownership is establishing an interactive working environment where all staffs contribute truly in all procedures and improvements which results in encouraging people to show their best talents and take action toward difficulties.

Systems awareness concentrates on incorrect issues not on the mistaken person. Each system is designed in proper manner to achieve the required targets, but still it may face some kind of failures which may result in reaching hazard to victim and cause incidence through a “channel” that formed when defences failed (Appendix 4). It is very necessary for managers to understand the system flow and factors contributing in system failure by using system view and being involved in patients’ streams to avoid blockage such as long waiting by analysing the underneath causes, removing the non valuable steps and redesigning the entire flow. Finally, effective leadership is key element for organisational success as good leader understands current circumstances, at the same time has a clear vision for the future and can empower the team, engage them and create a competitive working environment (Cartwright & Baldwin, 2007; McAuliffe & Vaerenbergh, 2006; Nicholls et al., 2000).

The reviewed articles under this theme clarified the meaning of clinical governance and its importance in change projects. It is tool for measuring the quality of care and it linked several elements together such as leadership, patients’ satisfaction, data gathering, education and learning. Furthermore, it showed the benefits of these essentials in
improving quality of care, reducing waiting times and increasing the cooperation between healthcare providers. Also it focused on the importance of leadership in powering the team and creating communicating environment. All these will lead to enhance patients’ experience and utilise the resources in better ways as they are the basis for clinical governance. So using clinical governance and its strategies will help in implementing changes in the retina clinic.

2.4 Implication of the Literature Review for the Project:

Based on the reviewed articles, some studies’ design followed qualitative or quantitative methods and in some studies there was mix from both. Articles measuring patients’ satisfaction used quantitative tools including questionnaires, feedback and survey to collect the needed data. Time measuring was a quantitative method which used in several articles to measure the average delay or the time spent in patient’s journey. Observing patient’s flow and mapping process are qualitative tools that applied in many articles to detect bottlenecks and wastage in the pathway. These methods were applied before and after the modifications in most of the studies. However, some articles used them once to evaluate the situation and search for improvements. In this project, all mentioned methods will be used to study the current practice, to find the main area of delay and to understand the causes of long waiting. After implementing the change, these evaluation tools will be repeated again to ensure reaching the targets.
The reviewed articles provided some change options for enhancing quality of care with improving services’ capacity and efficiency which resulted in increasing patients’ satisfaction and reducing delays. Alteration in the process by cutting unnecessary steps is one of the changes which will be followed in the retina clinic. It may also lead to raise number of patients receiving the injection as it is one of the main objectives and it was achieved in some reviewed studies.

Informational sessions and regular gathering with staff are planned to attract the employee towards the project and empower them to participate in it. Furthermore, clinical governance will be used with concentrating on leadership roles and the importance of creating interactive working environments to break the bonds and fulfill the outcomes. Finally, the outcomes from the literature review will be discussed with the managers of the eye department to keep them updated and get permissions to start acting.

2.5 Summary:

In conclusion, this chapter showed strong link between patient’s flow, waiting times, patients’ satisfaction, quality of care, communication and education as well as clinical governance. It also focused on methods of improving the quality in addition to evaluation tools and their importance to reach the excellence stage.

Conducting literature review improved the general knowledge on the subject and supported the necessity for implementing the change in the retina clinic. Many evidence on the strong impact of patient’s flow and delays on patients’ satisfaction was realised
from the studies. Furthermore, it was found that several techniques and strategies can be applied successfully in the clinic to enhance patients’ experience with reducing waiting times.

The following chapter will show the methods and methodology which used for implementing the organisational development change and will detail the change process based on the structure of change model.
Chapter 3

3. Methodology and Methods

3.1 Introduction:

Before starting any change in healthcare organisations it is essential to design plan and follow structured method to reach required targets. This can be achieved by using change model which facilitates understanding the process and helps in implanting changes. Many change models are available and anyone can be selected based on change’s nature and purpose. This chapter will review the rational for choosing the Health Service Executive (HSE) Change Model for this project rather than others. Also the used methods and methodology will be explained in details in a frame of various phases of the HSE model.

3.2 Rational for Choosing the HSE Change Model:

To create successful change in any organisation it is important to build up detailed study and plan to organise and direct the movement of the project in proper way. Change models help to understand the change's process and give control on the method of implementing the change based on evidence to undertake the management action. Although several literature reviews were studied to support the suggested change in the retina clinic, neither gave information on the change model which was used nor the best changing model to be followed. There are numerous theories on change models available to explain the principle for using each of them and of course each one has
advantage and disadvantage which make the model suitable for some changes but not for others.

In this project, I assessed several change models to select the most suitable one. Both Step models and Organisational Development (OD) models were reviewed. Control system with the step models, Kurt Lewin’s three phases of planned organisational model of change and Kotter’s eight Step model were considered in this thesis. The first studied model was Lewin’s (1951) three-step change model (Appendix 4), consisted of three stages which must be done in consequence manner. Unfreezing stage is important to understand the importance of the modification and get ready to change the present situation by preparing the workers and ensuring their ability to change where force field analysis is important to be done at this step. Change or transition stage means the actual movement in reaction to change which is not simple and need good leaders. Finally, Freezing or refreezing stage where stability is recreated after completing the change and it takes time to ensure the change became permanent and everyone got used for it (Burnes, 2004; Kritsonis, 2005). Lewin’s change model was not suitable for this project for many reasons. First, it is too fixed and run in one pathway with no flexibility for any diversion or sudden incident. Second, it has simple and mechanic planned method though the organisational change is contineous and undefined. Third, it is applicable to isolated changes and more convenient for stable organisation. Fourth, it ignores the conflict nature and the role of politics and power in organisation. Finally, it supports the top-down management and pays no attention to the conditions requiring bottom-top action (Burnes, 2004).
John Kotter’s (1996) eight step model for change (Appendix 5) was the second reviewed model. Kotter showed the benefits of following it in sequences which help the process to move easily and avoid any confusion by working with other steps at same time. In Kotter and Cohen book (2002) the model consists of eight steps. Step one: developing and increasing the urgency for change. Step two: forming the leader and team for acting. Step three: creating the proper vision and strategy. Step four: enhancing the communication and interaction between stakeholders for buying-in to empower people to take action as in step five and remove obstacles to build up short term success in step six. Step seven is important to continue the action and not give up to reach the long term wins. Lastly, step eight where the leader has to ensure the sustainability of the change and make it stick by nurturing the new culture. Actually, Kotter model can be summarised in three main phases: Creation climate for change (Step 1-3), Engaging and enabling the whole organisation (Step 4-6) then Implementing and sustaining change (Step 7&8). The limitation for using this model was mainly due to its linearity as it may lead to wrong assumption. It moves in one direction which makes the returning to previous steps, if needed, impossible. Although it provides communication between stakeholders, it is downward model. Also it may lead to workers’ dissatisfaction if their requirements not considered (Fernandez & Rainey, 2006).

Other models like Senior and Swailes (2010) and Health Service Executive (HSE) model of change were evaluated.

Senior and Swailes (2010) OD Model (Appendix 6) consists of five main processes, the first one divided into two steps: 1a "present state" where diagnosis the current situation
is taking place while 1b "future state" aims to create vision for change. Second step, put on promise to vision then step three the action plan is initiated. Step four, implement and apply the change followed by assessment and supporting the change as fifth step. It is clear that there is connection between change’s levels which makes it flexible for modification during implementation. This model is long term process for applying change where the whole organisation gets involve in it with top management support (Senior & Swailes, 2010).

According to Burke (1994) there are certain criteria for choosing change model as it should be well understood and possible to deal with, it must fit the organisation’s nature as possible and has to be practical with wide-range to allow collecting all needed information. Depending on the culture and the situation in my organisation and after reviewing the HSE model which will be explained in details, Senior and Swailes (2010) Model was excluded from this study.

I founded that the HSE change model was the most applicable model in my organisation for the required change.

HSE model was developed in Ireland by the HSE Management Team and was adapted from: Kolb and Frohman (1970), House (1980), Neumann (1989), Kotter (1995), Ackerman and Anderson (2001), McAuliffe and Vaerenbergh (2006), and Project Management Institute (2004) and approved by the Health Service National Partnership Forum in 2008. Its main objectives are: to improve patients’ and service users’ experience, to enhance the cooperation between employee in order to enhance the quality of service and promote constant approach to change across the system. It was initiated mainly to serve both healthcare providers and service users. Moreover, this
model is too flexible and easily modified when needed which allows moving the process in any direction and reviewing any step when required. It is well known that the change is usually unsettled and not linear as its components are interrelated and can affect each other at any time (HSE, 2008). This great advantage was the main reason for selecting this model for the proposed change among others.

3.3 The HSE Change Model:

To create an effective change and ensure its success, it is important to understand people views for the change and the organisational culture. Also it is valuable to apply the activities for change which includes: lead by example method, creating shared vision for change, focusing on service users, engaging key stakeholders, communicating smoothly, resourcing the change, supporting effective team working, establishing sense of urgency, balancing change and stability and supporting continues education and evaluation (HSE, 2008; HSE, 2010).

The HSE Change Model (see Figure 2) illustrates the movement of the alteration from the existing condition into the new desired future which passes through four stages of the project management lifecycle including: Initiation, planning, implementation and mainstreaming. I am going to explain each step based on my implemented change in the medical retina clinic.
3.4. Changing Process:

3.4.1 Initiation:

Initiation stage was necessary to prepare myself to lead the change by understanding the need for the change, establish the willingness among staff for applying the change, indentify the key stakeholders and get the support from my organisation. It helped in creating a core for leadership responsibility and constructing solid foundation for the change. The first step to start with was to discover the driving forces behind the change and its level of urgency (HSE, 2008).

Based on my observations in the ophthalmology department, I noticed patients were waiting very long each visit in the outpatient medical retina clinic and many of them were complaining about this issue. When I discussed that matter with the managers and explained the need to implement a change, I received support for my ideas.
Therefore, I developed a change project with the purpose of reducing patients’ waiting times and increasing their satisfaction by improving patient’s flow pathway and service capacity in this clinic.

As part of preparation, it was necessary to analyse the driving and the resistant forces to the change by applying Force Field Analysis (Lewin, 1951) (Appendix 7). The driving forces were found as following: First, the urgent need to improve the capacity and efficiency of the clinic and the quality of service. Second, organisation focus on patients’ satisfaction. Third, the recent trust objectives for utilising available resources. Finally, the high support from the management to conduct this change hence they pushed me to apply it as soon as possible.

On the other hand, the resisting forces in this project were mainly Habit resistance which was particularly from the staff who like the routine work and get used to follow same process daily. Also number of workers showed different assessment for the situation with some kind of disagreement on the need for a change (Riley, 2012) which is mainly due to human nature in refusing changes (McAuliffe & Vaerenbergh, 2006) also some employees may not realise the real need for making development (Dixon-Woods et al., 2012). Part of the resistance was due to my lack of authority to drive a change as I am not in power level and need to discuss each issue with the management.

In order to understand the causes behind people acceptance or resistance any modification, it is important to study the values and experiences of that person (Hultman, 2003). It could be useful to create self awareness and emotional intelligence
to distinguish which forces are with or against the project by observing people behaviours.

In this project, I found that the driving forces are much stronger than the resistant forces (see Figure 3) and that gave me the motivation to continue my project and move forward.

**Figure 3: Force Field Analysis**

<table>
<thead>
<tr>
<th>Score</th>
<th>Forces FOR Change</th>
<th>Forces AGAINST Change</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>The urgent need to improve the capacity and efficiency of the clinic</td>
<td>Habit resistant</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Increasing organisational focuses on patients' satisfaction</td>
<td>Different assessment for the situation with disagreement on the need for a change</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Recent trust objectives for utilising the available resources</td>
<td>Not realising the real need for making development</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>High management support to conduct the change</td>
<td>My lack of authority to drive a change</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Score (Drivers) for Change= 37  
Total Score Against (Resistors) Chang= 19
Clarifying leadership’s role and recognising key stakeholders were the next step as they can influence the change at any time. According to NHS (2008a), stakeholders’ analysis is one of the earliest steps in any change project to distinguish who is involved in the process which help reducing conflict and facilitate success. The identified stakeholders in my project included any person related directly or indirectly to the change and can likely be affected by it (Huczynski & Buchanan, 2001). Head of eye department, clinical leader, service manager, patients and staff of the medical retina clinic including physicians, registration staff and nurses were considered as key stakeholders since all would engage in the process and play role in my change.

Synergy/antagonists analysis was helpful in recognising people with high synergy and low antagonism who are considered as the unthinking supporters. While others with low synergy and moderate antagonism level were my opponents (NHS, 2008a). Based on the Stakeholders Typology (Muller et al., 2010) (Appendix 8), stakeholders are classified into: Zealots who support without thinking, Golden triangles who ensure the project succeed, Schismatics who believe the project is not moving correctly, Wavers who act depending on the situation, Passives who form the majority and usually silent, Moaners follow exactly the orders, Opponents are against forces and finally, Mutineers who prefer to lose anything to make others fail. Golden Triangles are one of my interest as they have a level of synergy to ensure the progression of the change. On the other hand, their level of antagonism is sufficient to improve the project and to move it in the right direction (D'Herbemont & Cesar, 1998).

Moreover, I used the Power versus Interest grid (Appendix 9) as a tool to assess the relative influence and power for each stakeholder which classifies them based on
priorities and preparing a communication plan to keep them updated and involved within steps. Furthermore, it highlights the players' interest and who must be encouraged or discouraged. Based on this matrix, four kind of people arise: High power with Low interest (Subjects) who must be kept satisfied all the time, High power with High interest (Players) they are the key stakeholders who should be totally engaged and have to be managed closely by an effective communication for their opinions, Low power with Low interest (Crowd) usually they are not danger but need monitoring as they maybe a passive and lastly, (Context Setters) Low power with High Interest and it is good to keep them updated with what happening all the time (Bryson, 2004; NHS, 2008a).

Analysing obstacles and all involved factors took long time before forming comprehensive plan and presenting it to the management. After discussion I got the approval to start, and all permission and papers were ready.

According to trust's policy, ethical approval was not required for my project as no patients' records or confidential information will be used during the project. Moreover, patients satisfaction survey is an approved process in the trust as no private information was included.

I arranged meeting in November 2014 with the retina clinic's staff and explained the idea behind the change to clarify the situation, prepare them to the change and to understand their views and suggestions. It was decided to meet regularly to review the process and note any suggestions to reduce resistance (HSE, 2010; Hultman, 2003).

SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) was performed, it is a strategic management tool that assists to understand the factors which may influence the change in organisations. It helped to identify the positives and negatives of
the external and internal environment of the organisation to create full awareness for the situation (Ayub et al., 2013; Helms & Nixon, 2010).

The strength points of the project were the need for increasing the treatment capacity, the support from the management, the good relation with the employees and the interaction and commitment of the stakeholders. The identified opportunities were the trust objectives for enhancing patients’ satisfaction and improving the quality of care and the planning for applying the Golden Hour project in the outpatient departments. However, weaknesses were the time limitation and my lack of authority while the threats appeared as resistance from some staff, different assessment of the situation and misinformation and misunderstanding the real aim (see Figure 4). Based on the findings, the developed aim was to concentrate on the strengths and opportunities of the project in order to find solutions and overcome the weaknesses and threats.

**Figure 4: SWOT Analysis**
The initiation phase was quite long but necessary to establish a strong base for following stages. In fact, it helped me recognising issues that need attention. Also it resulted in good support and interaction between the stakeholders allowing me to move to the next step.

3.4.2 Planning:

The purpose of planning phase is to establish specific feature for the change and to build support for the project by enhancing people to interact and give efforts. It makes the change process easier and attains more achievement. This stage is formed from three steps: Building commitment, Determining the details of the change and Developing the implementation plan (HSE, 2008).

Building commitment aims to create shared sense of the vision and form strong commitment for the change to focus on the work. This is part of the leader duty (Cartwright & Baldwin, 2007). So I arranged other meeting with clinical director and all members of different teams within the retina clinic and explained the main purpose of the project. Then, gave each team a chance to discuss the vision of the change together and send me feedbacks and opinions. This meeting allowed me to interact with the service suppliers and facilitated transition of the vision to all employees to ensure their understanding of the idea also it increased the assurance for the project.

The second step was to determine the change’s details. As the main aim for the project was to enhance patients’ experience and decrease delays, I started to interact with patients and conducted a satisfaction questionnaire -explained in Chapter 4- to
understand patients’ views and focus on the problem based on their answers. I spent plenty of time on this step by observing the existing practice and assessing the followed pathway. I conducted mapping process for patient’s journey from the time that patient reaches the clinic until leaving it with measuring the overall waiting time in the clinic and the time needed to complete each step in the pathway to detect the bottleneck and to decide the detail of the change as improvement in healthcare organisation requires making changes in the process of care and service delivery (Benneyan et al., 2011).

Mapping of patient’s journey is a visual image of the process which presents how different steps are performed (NHS, 2008b). It allows us to understand patients’ experience by separating the circumstance into steps and the resulted data from mapping can be used to redesign the followed pathway (Treble et al., 2010).

The Flow Cost Quality Improvement program which was developed by The Health Foundation (2013) as well as the case studies conducted by the NHS on reducing delays (2000-2007) and as per the literature review, showed the importance of mapping patient’s flow, observing the pathway and measuring delays with times spent during the process. Moreover, these articles presented the roles of these tools in detecting the problems and creating changes in different healthcare organisations (BICS, 2007; Ho, 2014; Jones & Pereira, 2013; Kamil & Lyan, 2013; Umar et al., 2011; NHS MA, 2004; NHS Institute for Innovation and Improvement, 2006; NHS Institute for Innovation and Improvement, 2007; Ogunfowokan & Mora, 2012; Pons, 2012).

To do mapping, First of all, it is important to know exactly what happens to patient in each step, who is involved and where. Second, analyse the procedure, detect the problems and find the solutions. Involving staff in mapping could help in building clear
idea and highlighting the defects. Understanding the process from patient perspective is also essential if patient focused service improvements are to be made (NHS Scotland, 2005; Trebble et al., 2010).

In this project, observing patient's journey was done along with measuring and recording the average time spent in each step of the pathway based on the Theory of Constraint to: review the pathway with measuring the time length between each step, highlight the actions which do not add value to patients and those considered as good practice, identify the bottleneck in the process followed by reducing the possible constraint and recognise the impact of improper link between demand and capacity (Knight, 2011). It was followed by preparing flow charts; a macro mapping for the pathway (see Figure 5) and detailed micro mapping for the whole process before the change since patients reach the medical retina clinic until leaving it (see Figure 6) in order to understand the undergoing practice.

**Figure 5: Sample High-Level Flow Chart (Macro Mapping): Medical Retina Clinic**

**Patient's Flow**
According to the observed process and the calculated time data, patients reached the administration office in the clinic and completed the registration, then are asked to wait their turns. This takes in average 20 minutes then the optometrists check their vision and administrate some eye drops to dilate the pupils. The length of these procedures differs depending on patients’ ages but do not exceed 10 minutes. After that patients return to the waiting room and wait at least 20 minutes for the drops to take effect, then patients again are called for the Optical Coherence Tomography (OCT) scan taking 5 minutes in maximum also depending on patients’ ages and conditions. Later on, patients return to the waiting area.

Prior the change, patients were waiting 30 minutes in average then called by a nurse to see the doctor in the office who reviews the results of the conducted tests and decides if patient needs intraocular injection in that visit or not. The mean time that patients spend with the physician is 15 minutes, then patients who do not require injection leave the clinic directly after the consultation while patients who need treatment return to the waiting area and wait in average 30 minutes. The nurse invites the patient to the injection room to see the physician who explains again the findings (around 5 minutes) and then inject patient’s eye(s) within 5 minutes after that the patient leaves the clinic (see Figure 6). The overall waiting in that process was around 120 minutes in average.
Figure 6: Sample Detailed Flow Chart (Micro Mapping): Medical Retina Clinic

Patient’s Flow (Before Change)

1. Patient reaches the clinic
2. Reception Check in
3. Waiting
4. Check vision & dilate pupil
5. Waiting
6. Diagnosis
7. Patient moves to physician’s office
8. Waiting
9. OCT Scan
10. Need injection
    - Yes: Waiting
    - No: Patient leaves the clinic
11. Patient moves to injection
12. Inject patient’s eye(s)
13. Patient leaves the clinic
After analysing the patient’s pathway and time data, I found that patients were called to see the doctor in the clinic and again reviewed by another doctor in the injection room so there was at least 40 minutes delay in this stage.

I was informed that due to lack of capacity in the injection area, they use to follow this way to distribute patients and reduce pressure on the only physician available in the injecting room. Then I met the physician and the nurse who usually stay in the injection room. I found that the treating room is not arranged in proper way, it contains one chair only where patients receive the injection and one desk where doctor sits and enters patients’ data in the computer. Although it is not very large area, I started to look for solutions for that matter and I came out with the need for rearranging the injection room to increase its capacity and allow more patients to be treated at the same time. I found that there was a chance to add one more chair in the room but I must keep in consideration that a table for preparing the injection and a trash bin for discarding the needles must be available next to each chair. So if we arrange the room in the suggested way, the other doctor who reviews patients usually in the clinic will move to the injection room. By applying this change, the patient who completed the vision checking and the OCT scan will be called directly to meet the physician in the treating room who decides whether there is a need for injection or not. Patients of this clinic usually do not need additional examination in the clinic and the doctor depends mainly on the results of the vision and the scan to decide the need for the intraocular injection in each visit. If the injection is required, patient will shift to the chair for injection and at the same time other patient will be called to see other doctor and follows same method. The process map after change will be illustrated in Chapter 4.
This change could double the capacity of the room and cut unnecessary step in patient’s pathway which may decrease delays. I was aiming to reduce patients’ waiting time in the clinic by changing patient’s flow so they can see physicians directly in the treating room instead of visiting them in the office before moving to the injection area. Also by reorganising the room and increasing its capacity, more than one patient can receive the treatment at the same time. These modifications may increase overall patients’ satisfaction as reviewed in chapter 2.

In the beginning, I felt that the idea is somehow complicated as several things need to be studied and changed. But after the literature review I found many articles supporting my thought and I understood the strong correlation between waiting time, patient’s flow and patients’ satisfaction. So if the capacity of the treating room can be increased, more patients will receive the injection. The main bottleneck will be removed and the wastes will be reduced which should result in decreasing waiting time. All of this could improve patients’ experience.

At that stage when the implantation plan was developed, I was empowered to meet my supervisor to discuss my suggestions, update him with the discovery and get approval to continue the work.

I held another meeting with the stockholders and explained the recent findings, the proposed solutions and the details of the change. Most of them showed great interest in the progression but a small group when they felt that the change is about to be implemented and may affect their routine of work and increase working load on them by dealing with new process, they showed concern and resistance toward the project. In any change the employees may disagree with the change, however, the success of the
change is based on the experience of the changing agent to communicate and talk to them. In addition, it depends on the leader’s ability to negotiate with people along with other leading skills and roles (Cartwright & Baldwin, 2007). In this situation as I am the leader for this project and after doing the stakeholders’ analysis, I was expecting such kind of reaction. Therefore, I accepted their opinions and started to build their trust by gathering them and communicating more with them. We discussed their ideas and I gave them information on the importance of this change as well as the significance for their interaction to achieve the targets. Furthermore, it was necessary to show them how this improvement could result in benefits for patients and staff. McAuliffe and Vaerenbergh (2006) mentioned that leadership has to motivate the followers to look beyond their vision and think in the advantages for all people beside other leadership’s roles to achieve the success. All that helped in building commitment, removing resistance and making the change accepted and supported by everyone in the clinic.

At the end of planning stage of the HSE change model, a detailed plan for implementing change became ready which supported the aim of the project.

3.4.3 Implementation:

Implementation phase focuses on applying and putting the agreed plan of the project into real practice, as well as monitoring the change to ensure it assembles the required aim and objectives. In this stage the leader has to assure the movement of the implementation plan in proper sequences within the time frame. It may vary from the schedule but the leader has to act in flexible way and be adapted to different situations.
while allowing the natural movement of the plan within the vision outline (HSE, 2008; McAuliffe & Vaerenbergh, 2006).

The first step in this stage is to implement the change followed by sustain momentum. As the employees in the department accepted the change and the managers want to initiate it and enhance the satisfaction and performance of this clinic, the change was supposed to begin in February 2015. The physical item which I was required to start the change was the new chair. The order was placed by the clinical manager and received in February 2015 which was put in the treating room parallel to the old chair in way that makes the patient separate enough from each other with a partition inbetween. Sufficient space was kept to allow easy movement in the area without affecting others. And it was put next to each chair preparing table and trash container for discarding the used needles.

During this time, after planning the change and before its implementation, I invited all multidisciplinary team who were participating in patient’s flow pathway and would be involved in the change to attend the designated informational session in February 2015 to raise their awareness on the implemented change, explain all details of the new pathway and facilitate its implementation with minimum mistake. The need for this session was raised by doing SWOT analysis explained earlier. This session focused on the changing areas as I described the role of each person in the new pathway in order to clarify any misunderstanding and avoid possible errors or delays. It also showed the benefits of doing this improvement and increased the knowledge on the importance of the change for everyone. Furthermore, it played role in empowering the staff and created a teamwork environment by encouraging people to participate and share their
ideas during the session. All of that resulted in many advantages such as: Involving everyone in the project and making the employees feel and act as part of the change in addition to motivate them to give their suggestion and support the improvement (NICE, 2007; Pons, 2012).

Then the change began as I planned, I stayed around all the time during implementing the change to review the work stream and to observe the situation for addressing any conflict and taking the direct action when needed. Additionally, I was continuously reviewing my objectives during the implementation step to keep my process within the targets. It was very important to maintain the energy and stay in communication with all stakeholders all time to encourage them and to be aware of all events in aim to solve any obstacle appears in this stage.

3.4.4 Mainstreaming:

The last stage of the HSE change model is mainstreaming. It aims to spot the light on the change’s target and maintain the new methods of acting by working along with incessant evaluation and searching for improvement.

I conducted evaluation for the implemented change in March 2015 by using similar techniques and questionnaires which used in planning phase. The results showed great improvement in waiting time and patients’ experience. These evaluations will be explained in details in Chapter 4.

In this phase, I tried hard to raise staffs’ belief in the change by showing them some of its positive impact on patients’ satisfaction, comparing between steps and times before
and after the change and gave them example on average time saved each day.

Moreover, it was important to keep continuous communication and interactions with stakeholders as I was available all time monitoring and observing the condition. Also I was receiving regular feedbacks on the change from stakeholders who were informing me directly with any concern which helped in sustaining the achievements, avoiding potential threats and ensuring the project success.

There was a huge pressure on me with massive works and responsibilities during the implementation and mainstreaming stages. However, the positive responses from key stakeholders and my sponsor gave me the support to keep going.

3.5 Conclusion:

This chapter presented the method and methodologies that used in conducting the change project in the Medical Retina Clinic. The implemented change was based on the HSE Change Model (2008). The process of the change was explained in details in each stage. Overall, the development of the change moved smoothly and came out with good results, I am going to explain and discuss the evaluation methods of the project in the following chapter.
Chapter 4

4. Evaluation:

4.1 Introduction:

Evaluation is the active process of collecting, analysing and reporting information. It provides systematic evidence to determine project’s effectiveness and find how well a change was done by making investigation and using different tools (Hughes & Nieuwenhuis, 2005). Healthcare evaluation is a judgement of healthcare programme’s values against standard, also based on data collection and helps people to rationalise the initiation of projects and make future plans for improvement. It is continuous process and not limited to the end of the project. It can be applied whenever needed during the change. That was one of the reasons behind choosing the HSE change model for this project (Green & South, 2006; Hughes & Nieuwenhuis, 2005; Oermann & Gaberson, 2014).

Healthcare evaluation can be used to evaluate services and changes in organisations, it should focus on efficiency, effectiveness, economy and equity to reflect whether the aim and objectives have been achieved and led to the wanted outcomes (Lazenbatt, 2002). Øvretveit (1998) mentioned that evaluation in healthcare includes health treatments, services, policies and changes to organisation. Several evaluation tools can be used depending on type of data when available, who are the stakeholders, and best way for collecting the information to meet the objectives. Measurement is essential device to recognize and eliminate variation in clinical processes. Data can also be used to reflect whether an increase in services’ demand requires hospital-wide action to find solutions (McHugh et al., 2011). For each objective set for this project, evaluation was done by
using different tools and methods. This chapter will focus on evaluating the intervention which was introduced in the retina clinic.

### 4.2 Evaluation Tools and Outcomes of the Change:

There are many different models and types for healthcare evaluation including: process, outcome and impact evaluations (Hughes & Nieuwenhuis, 2005). The used method in this project was based on “Box” model for evaluation design (Appendix 10) Type 1 and 3 of Health evaluation design including: Descriptive type 1; description of the implementation process (Appendix 11) (Øvretveit, 1998). Process evaluation via Descriptive evaluation design (Process) to evaluate the strength and weakness in patient’s flow and the implemented change in the process by using direct observation of practice with measuring the duration consumed in patient’s journey, followed by Macro and Micro mapping analysis. Also there was depending on Theory of constraints as mentioned earlier. Outcome type 3 (Appendix 12); outcome evaluation by using Single before and after design (Outcome) (Øvretveit, 1998) to ensure whether the program reached its ultimate goals. Questionnaire was used to evaluate patients’ satisfaction with waiting times and quality of care.

The evaluation was done before starting the change and was repeated again after the implementation to compare the results and to ensure achieving the required aim and objectives (Øvretveit, 2002). Based on the reviewed articles in chapter 2, some studies used only quantitative methods by conducting questionnaires, surveys, online feedback and time measuring while the majority applied both quantitative and qualitative tools for
evaluating their developments such as: observation, stream mapping, time motion study, face to face interviews with patients and stakeholders. In this project, both quantitative and qualitative approaches were used to understand and analyse the importance of conducting the change and to evaluate its outcomes. The tools of evaluation were: questionnaire, observation, process mapping, waiting time data and Kirkpatrick’s evaluation framework to evaluate the effectiveness of the informational session. Each tool will be explained in details in the following paragraphs.

4.2.1 Patient Satisfaction Questionnaire:

Patients questionnaire was conducted to understand their need and to gauge their level of satisfaction. Many reviewed articles (Anderson et al., 2007; Harnett et al., 2010; Ho, 2014; Kamil & Lyan, 2013; Oermann et al., 2001; Ogunfowokan & Mora 2012; Umar et al., 2011) showed the significant benefits for using this tool to evaluate patient satisfaction. Patients feedback must be used to understand their views, to measure their experience and to evaluate outcomes since the safety and quality become the heart of everything in healthcare. It is very important to work with patients to measure their experience, develop improvement projects and enhance the quality of care (HSE, 2013).

In this project almost all patients attending the medical retina clinic were involved in the study as the patients having chronic conditions and they come to this clinic regularly on monthly bases either to receive the intraocular injection or to follow up their conditions. A total number of 100 patients (50 patients prior the implementation and 50 patients
after) were included in the survey after explaining to them the idea of the questions and the confidentiality of the study. The questionnaires were filled with the help of the author because all patients were very old and had vision problem. Patients satisfaction questionnaire was already prepared by the Quality and Development department and distributed to all OPD clinics in the organisation as performance indicator to check the level of patients’ satisfaction in each clinic. The original survey was long and not all sections were essential in the project. So the questions related to the project and helped to fulfil its need were only chosen. All questions were from quantitative type with multiple choice answers. They contained information about patients’ age, sex, time spent in the clinic, their degree of satisfaction on both the waiting time and the quality of care as well as their recommendations’ level. No personal identifying information were collected in this survey such as: name, medical number or address (Appendix 13). This survey was done in two time periods before starting the change in October 2014 and after the implementation in March 2015. It covered both clinical sessions; morning and afternoon. All participants were cooperative with the study and were happy to answer the questions. However, the majority were concerned at the beginning from producing any negative impact on the staff by the survey. This feeling was eliminated directly after clarifying the project’s objectives for improving the performance and quality of service.
Data from Questionnaire Before and After the Change:

Demographics:

A total of 100 questionnaires (50 before change and 50 after). Table 1, lists the demographic characteristics of before and after the change groups. There was no significant difference in age or sex in both groups. In first group, out of 50 patients, 46 participants (92%) were older than 64 years while only 4 patients (8%) their ages were between 55 and 64 years old. In second group, the age of 48 patients (96%) were >64 and 2 patients (4%) were between 55 and 64 years old. There was not any participant in group age 45-54 years old. Out of 100 questionnaires almost half patients were female and the remaining were male.

Table 1: Patients' Demographic Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number of Patient (%) Before Change</th>
<th>Number of Patient (%) After Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45-54</td>
<td>0.0 (0%)</td>
<td>0.0 (0%)</td>
</tr>
<tr>
<td>55-64</td>
<td>4 (8%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>&gt;64</td>
<td>46 (92%)</td>
<td>48 (96%)</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>24 (48%)</td>
<td>25 (50%)</td>
</tr>
<tr>
<td>Female</td>
<td>26 (52%)</td>
<td>25 (50%)</td>
</tr>
<tr>
<td><strong>Total Number (%)</strong></td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>
Question 3 and 4 in the questionnaire showed that all the hundred patients who were involved in the study had chronic condition and they visited the clinic before but none of them were informed about the estimated time for their visit or when they will be called to see the physician.

**Subjective Time Spent in the Clinic:**

In the questionnaire before the change, the overall waiting time in the clinic varied, 20 patients (40%) reported spending more than three hours, another 20 patients (40%) spent 1 and half to 2 hours while only 10 patients (20%) said it was 2 to 2 and half hours.

Following the change, a significant decrease was noticed in the subjective waiting time. 13 patients (26%) reported total waiting time was 1 and half to 2 hours while the majority 37 patients (74%) spent 1 to 1 and half hour in their visit and the good result was none of them waited more than 2 hours in the clinic as presented in Table 2.

**Table 2: Total Waiting Time Patients Spent in the Clinic**

<table>
<thead>
<tr>
<th>Total Time Spent in the Clinic (hours)</th>
<th>Number of Patients (%) Before Change</th>
<th>Number of Patients (%) After Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;3 hours</td>
<td>20 (40%)</td>
<td>0.0 (0%)</td>
</tr>
<tr>
<td>2hrs –2hrs &amp;30min</td>
<td>10 (20%)</td>
<td>0.0 (0%)</td>
</tr>
<tr>
<td>1hr &amp;30min –2 hrs</td>
<td>20 (40%)</td>
<td>13 (26%)</td>
</tr>
<tr>
<td>1hr –1hr &amp;30min</td>
<td>0.0 (0%)</td>
<td>37 (74%)</td>
</tr>
<tr>
<td><strong>Total Number</strong></td>
<td><strong>50 (100%)</strong></td>
<td><strong>50 (100%)</strong></td>
</tr>
</tbody>
</table>
The average waiting time needed for seeing the physician and receiving the treatment was approximately 60 minutes prior the change. All 20 patients who answered the total time was more than three hours, said they waited more than one hour to see the physician.

In comparison, the average time for seeing the physician and receiving the treatment dropped to 30 minutes ± 10 minutes depending on patients' situations specially their ages and the time needed for dilating the pupil (see Figure 7).

**Figure 7: The Average Waiting Time for Seeing the Physician and Receiving the Treatment**

![Figure 7: The Average Waiting Time for Seeing the Physician and Receiving the Treatment](chart)

**Patients’ Satisfaction with Waiting Time:**

The first survey showed that half of the patients 50% (n=25) were not satisfied with long delays in the clinic while 24 patients (48%) were satisfied and one was very satisfied
(2%) (see Figure 8). The later questionnaires represented obvious boost in the level of satisfaction where most of the patients 90% (n=45) reported being satisfied (56%) or very satisfied (34%) within the clinic encounter time. Only 5 patients (10%) were still unsatisfied with delay (see Figure 9).

**Figure 8: Patients’ Satisfaction with Overall Waiting Time (Before Change)**

![Figure 8: Patients’ Satisfaction with Overall Waiting Time (Before Change)](image)

**Figure 9: Patients’ Satisfaction with Overall Waiting Time (After Change)**

![Figure 9: Patients’ Satisfaction with Overall Waiting Time (After Change)](image)
Patients’ Evaluation for Quality of Care:

When patients were asked to assess the quality of clinical care, the answers varied between good (48%), very good (50%) and excellent (2%) before applying the change. These results did not change much after the change as 45% said it was good, 50% was very good and 5% was excellent (see Figure 10).

Figure 10: Patients Evaluation Results for the Quality of Care in the Clinic

Patients’ Recommendation Level:

Patients were asked how likely they would recommend the outpatient retina clinic to friends and family if they needed similar care or treatment. In first group, 25 patients chose extremely likely, 21 patients were likely to recommend it, 1 patient did not know if would or would not suggest it to others and 3 patients were unlikely.
In second group, 26 patients became extremely likely, 23 patients were likely to recommend it and 1 patient was neither likely nor unlikely (see Figure 11).

**Figure 11: How Likely Patients would Recommend the Clinic**

4.2.2 Process Mapping and Objective Time Measuring:

In this project, observing patient’s journey with measuring, recording the average total waiting time and the time spent in each step of the pathway and detailed micro mapping for the whole process was done before the change in the planning phase. Which helped in finding the main bottleneck and wastes in the followed process as explained in chapter 3. After implementing the change, all these tools were repeated again to evaluate the implemented change in the clinic.
The pathway was redesigned in more effective way after detecting the bottleneck and developing modification for that situation as one step was completely removed and now two doctors are available in the treating room.

Figure 12, illustrates the modified pathway. When patients complete the OCT scan and return to the waiting area as explained in the pre-change pathway in figure 6, a nurse calls the patient to the injection room directly to see the doctor who reviews the results and diagnoses the situation then decides either the patient needs treatment this time or not. In the new process, one physician injects patient’s eye(s) and at the same time the other physician reviews another patient and administers the injection by using the new chair. Patients with stable conditions leave the clinic directly after the consultation.

In contrast, the average waiting time was reduced almost to half from 120 minutes (pre-change) to 60 minutes ±10 minutes by following the new pathway (see Figure 13).
Figure 12: Sample Detailed Flow Chart (Micro Mapping): Medical Retina Clinic

Patient’s Flow (After Change)

Patient reaches the clinic → Reception Check in → Waiting → Check vision & dilate pupil → Waiting

Diagnosis → Patient moves to injection room → Waiting → OCT Scan

Need injection? → Yes → Inject patient’s eye(s) → Patient leaves the clinic

No → Patient leaves the clinic
4.2.3 Informational Session Evaluation:

The effectiveness of the informational session held in February 2015 to the multidisciplinary team involved in the change was evaluated by using Kirkpatrick's evaluation framework, developed by Donald Kirkpatrick in 1959 and has been the most widely used model because it is simple, applicable and flexible. It is based on four levels including: Reaction (experience), Learning, Behaviour and Results (Parry et al., 2013) (Appendix 14). Reaction level shows how people react and feel about the training. It can be evaluated by collecting data by questionnaire or getting verbal feedback and observing the participants' body languages (Klenke, 2013). So it was done directly after the session by asking the participants some verbal questions about their ideas, expectation and suggestions. There was improvement in staff reactions toward the project compared to first meeting in November 2014 and all the attendance were satisfied with the session. Learning level reflects what people learnt in the session.
which was not applicable as there was no new education or policy implemented. In this project, only the first level was used as the session consisted of giving information to clarify the modified pathway and explain staff role in it as explained earlier.

The evaluation of each level becomes more difficult nowadays and most of the organisations stopped at level two as majority of the evaluation happened in first levels and the remaining levels need much time and efforts (Wang, 2011).

This informational session empowered the staff to follow the modified pathway and created strong compliance to the process which assisted in reaching the desired objectives (NICE, 2007; Pons, 2012).

4.3 Conclusion:

In conclusion, a variety of evaluation methods were used to plan and measure the change project. The evaluation tools’ results provided information on the advantages of the implemented change in patient’s flow as it showed enhancement in level of patients’ satisfaction with reducing waiting time. Informational session improved staff knowledge about the change which was strongly linked to project success and avoidance errors.

Overall, the outcomes showed that almost all designed project’s objectives were met as it will be discussed in the next chapter along with the impact, strength and limitation of the project as well as some recommendations for the future.
Chapter 5:

5. Discussion and Conclusions:

5.1 Introduction:

The change project was studied, planned and implemented in the medical retina clinic within the time frame. The HSE Change Model (2008) was used to structure the project and outline its different steps. Several evaluation methods were used where all tools and results reflected the success of the implementation as the main aim of the change was achieved at the end of the development and all proposed objectives were almost completed. This attainment was confirmed by comparing the outcomes to those in the reviewed articles as it will be discussed in the following paragraph. Different points played role in the implemented project and the initiated change produced several effects on the organisation which will come in this chapter.

5.2 Findings from the Project:

The aim of the project was to implement a change to reduce patients’ waiting times and increase patients’ satisfaction by improving patient’s flow pathway and service capacity in the retina clinic. In general, the results showed how the efficiency, effectiveness, capacity and experience were improved. Moreover, it reflected that patients who waited longer were unhappy and as waiting time decreased, level of satisfaction increased. This is similar to the findings in studies done by Anderson et al (2007), Harnett et al (2010), Kamil and Lyan (2013), Ogunfowokan and Mora (2012) and Umar et al (2011).
In this project, half of the patients (50%) were not satisfied with long delays before starting the change which was higher than the finding by Umar et al (2011), where 173 patients (45%) were dissatisfied due to long waiting time.

Following the change, in this project 90% (n=45) of patients reported being satisfied or very satisfied when the waiting time reduced and that represents the positive impact of the change. One of the change objectives was to increase patients’ satisfaction to 100%. In spite the change, 10% still unsatisfied with delays as there is still waiting in the clinic which needs further analysis and improvement.

All the hundred patients in both groups were satisfied with quality of care since they considered it good, very good or excellent and 0% said it was fair or poor. In compare, the finding by Ogunfowokan and Mora (2012) was 250 patients out from total of 270 patients were satisfied with quality of care.

By implementing the change and modifying patient’s pathway, the average waiting time significantly reduced from 120 minutes to 60 minutes ±10minutes which considered as very good achievement since it decreased by 50%. It is as good as the result of the implemented change by Harnett et al (2010) where waiting time in the new process considerably dropped from 92 ± 10 min to 42 ± 5 with large improvement in patients’ satisfaction. The result was better at Torbay Hospital as 60% of outpatient waiting time was reduced after doing the time motion study and reorganising patient’s journey (NHS Institute for Innovation and Improvement, 2007). However, optimising the process and rearranging the time at a tertiary diabetes centre resulted in 36.6% decreasing in waiting time of one step only while the turn-around time had just dropped from 108.23 minutes
to 106.6 minutes (Ho, 2014) which showed the good achievement of the change in the retina clinic.

In first group, the overall waiting time in the clinic was varying between (>3 hours-1 and half hours) and this delays was also common in other organisations such as OPD clinics at LVPEI which reported waiting times from 45 minutes up to 6 hours (Kamil & Lyan, 2013). Also, it was measured by Ogunfowokan and Mora (2012) in the range of (10 min-7,2 hours) with average total waiting time 2.7 hours. However, in this project the implemented change produced obvious decrease in the waiting times as majority of the participants n=37 (74%) spent 1 hour to 1 and half hour in their visit and none of them spent more than two hours.

The average waiting time needed for seeing the physician and receiving the treatment was approximately 60 minutes prior the change which was exactly similar to time spent at National Hospital Abuja as patients spent 1 hour to be called to see the physician only regardless other delays (Ogunfowokan & Mora, 2012). Majority of patients at the OPDs in a tertiary health institution waited more than one hour to see the doctors (Umar et al., 2011).

Long delays had decreased clinics’ reputation as found in patients survey (Kamil & Lyan, 2013), also the case study conducted by the NHS Institute for Innovation and Improvement (2007) at South Devon Healthcare Trust showed increasing in the referrals by 14% after implementing change in patient’s pathway. In this study, there was slightly changing in level of how likely patients’ will recommend the clinic to other people as 46 patients before the change said they will advice people to visit it and 3 patients will not. While after the change, 49 patients said they will suggest it to others
and 1 patient was neutral; neither likely nor unlikely. Generally, the recommendation level was improved by the change. However, the majority in both groups would recommend the clinic to others despite long waiting and other factors which play role in patients’ satisfaction. This reflects patients’ trust and faithfulness with the medical retina clinic and the provided services.

Observing patient’s journey, conducting mapping analysis and measuring time spent in each step helped in finding the main bottleneck in patient’s pathway which resulted in long delays and led to patients’ dissatisfactions so the change was planned and introduced in the clinic. These methods were used to investigate the reason of long waiting in clinics (Kamil & Lyan, 2013), at Singapore General Hospital by Ho (2014), The Health Foundation (Jones & Pereira, 2013) and by Pons (2012) in the eye clinic in US. All these literatures concentrated on the important of making change in patient’s flow and utilising the capacity in better ways by managing the times and utilising the resources in better ways. They ended with decreasing time and waste, speeding up the movement, attracting more people and enhancing the overall system quality in addition to improving customers’ experience. It was also applied in case studies on reducing delays and improving Patient Flow in the NHS (2000-2007) including the study in the outpatient clinic at Grantham and District Hospital, United Lincolnshire Hospital NHS Trust where there was considerable improvement in reducing waiting times and increasing the area’s capacity as patient’s flow was redesigned and resulted in seeing 20 patients more by physicians per week. Furthermore, quality of care and patients’ satisfaction were enhanced (NHS Institute for Innovation and Improvement, 2007). This resembles the outcomes from the change project as the number of patients reviewed by
the physicians and received the injection in same session was double and patients’
happiness increased significantly. However in tertiary diabetes centre the percentage of
patients who were seen by doctors increased by 4% within 60 minutes (Ho, 2014).
Table 3 summarises the results of this project in compare to reviewed studies.

Table 3: Comparison Between the Findings from this Project and Previous
Studies

<table>
<thead>
<tr>
<th>Description</th>
<th>Findings from This Project</th>
<th>Findings from Previous Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relation of Waiting time with level of patients' satisfaction</td>
<td>Waiting time decreased patients' satisfaction increased</td>
<td>Same</td>
</tr>
<tr>
<td></td>
<td>Same</td>
<td>Same</td>
</tr>
<tr>
<td>Satisfaction with long delays before change</td>
<td>25 patients (50%) not satisfied</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>173 patients (45%) not satisfied</td>
<td>-</td>
</tr>
<tr>
<td>Satisfaction with the quality of care</td>
<td>100 patients (100%) in both groups</td>
<td>-</td>
</tr>
<tr>
<td>Overall waiting time before change</td>
<td>&gt;3 hours to 1 and half hours</td>
<td>45 minutes up to 6 hours</td>
</tr>
<tr>
<td>Average waiting time for seeing physicians and receiving treatment before change</td>
<td>~ 60 minutes</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ogunfowokan and Mora (2012)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harnett et al (2010)</td>
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<tr>
<td></td>
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<td>Same</td>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in waiting time after change</td>
<td>50% From 120 minutes to 60 minutes ±10 minutes</td>
<td>50% From 92 ± 10 min to 42 ± 5</td>
<td>60%</td>
<td>36.6% in one step only Turn-around time dropped from 108.23 minutes to 106.6 minutes</td>
</tr>
<tr>
<td>Patients’ recommendation and referral level</td>
<td>Increased from 46 patients to 49 patients after change</td>
<td>Decreased by long delays before change</td>
<td>Increased by 14% after change</td>
<td></td>
</tr>
<tr>
<td>Number of patients reviewed by physicians and received treatment after change</td>
<td>Double per session</td>
<td>20 patients more per week.</td>
<td>Increased by 4% within 60 minutes</td>
<td></td>
</tr>
</tbody>
</table>

### Outcomes
Decrease waiting time and waste, speeding movement, attracting more people, improving patients’ experience after making changes in patient journey, utilising the capacity and resources and managing the times in better ways.

#### 5.3 Experience of Introducing the Change and Reflections on the Project:

In overall, the change project was successfully initiated and implemented in the organisation and resulted in obvious improvement in level of patients’ satisfaction.
In my opinion, developing a change was not an easy duty but I found it so excited and full of challenges to manage the working path and reach the targets at the planned time. I gained lots of experience and knowledge on leading change and holding responsibilities. Moreover, I learnt many useful things from doing this project such as how to put the theory materials in practice by applying force field analysis, SWOT analysis and cultural web for the trust. In addition, I got the experience of managing the entire work from the first moment till its end.

Studying change models and selecting the HSE model, as it was found the most applicable one for the needed change, was so helpful in continuing the improvement and sustaining the change’s success. Each step in this model added some skills and taught me to understand other people and plan for future. One difficulty was the resistance to the implemented change as some employees were concerned from breaking the routine and there was misunderstanding for the main idea of the change at the beginning. However, as part of preparing to lead the change, I was expecting such challenges and prepared myself to deal with it by doing analysis to key stakeholders and their functions in the change. After understanding the stakeholders’ typology, several meetings were arranged along with informational session to attract the stakeholders, remove constrain, clarify the positive outcomes of such change for all people including patients and employees. That produced good interaction and strong commitment for the project also it resulted in many advantages which were evaluated by Kirkpatrick’s evaluation framework for training. Contacting patients and collecting data was very interesting as it allowed me to come closer to patients, listen to them and understand their feelings. During filling the questionnaires some people were afraid to
express their real views about the situation as they did not want to produce any bad effect on staff so I explained for them that this survey is just for improving the quality of care and nobody will be blamed which led them to answer the questions with complete openness.

Furthermore, several literatures on clinical governance showed the necessity for developing active relationship between patients and practitioners. Clinical governance is a tool for continuous improving the quality of care in NHS services (Chang et al., 2013) and it focused on its importance in increasing patients’ satisfaction and enhancing the performance (Davies, 2002; Halligan & Donaldson, 2001; Nicholls, 2000; Som, 2004). As initiating successful clinical governance required strong bases which contains five main cultural elements including: teamwork, communication, ownership, systems awareness and leadership, I worked hard to create interactive, teamwork and reflective working environment to understand circumstances and develop clear vision for future since it is a task of effective leadership who is a key element for organisational success (Cartwright & Baldwin, 2007; McAuliffe & Vaerenbergh, 2006; Nicholls, 2000). Overall, the leadership roles taught me to treat different conditions with confidence and to apply my emotional intelligence along with facilitation and technical talents to deal with different mentalities, encourage stakeholders during all project’s phases and support them through highlighting the benefits of the change (Dixon-Woods et al., 2012).
5.4 Strengths and Limitations of the Project:

5.4.1 Strengths:

There was positive impression for the whole idea of the study with big managerial support to initiate the change within the retina clinic with aim of enhancing patients’ satisfaction and quality of care. That support was the major power for the project’s permanence and conquered the change’s conflicts. These forces were distinguished by applying force field analysis (Kurt Lewin, 1951) and pull the attention to utilise the driving forces to overcome the resistance forces as successful change can be reached by either empowering the driving forces or declining the resistance forces.

Moreover, Johnson and Scholes Culture Web (2011) helped in selecting the most suitable method for creating the project after analysing and understanding the organisational culture. Using the HSE Change Model (2008) constructed the steps of the project and facilitated moving in numerous directions with reviewing the stages at any time. Other important potency was developed from classifying and recognising the key stakeholders by using power/interest grid which clarified the importance of attracting them toward the change and resulted in creating interactional environment by gathering with them continuously, increasing their knowledge and keeping them updated with the progression. This eliminated the resistance to the project and maintained the commitments. Finally, using different evaluation tools before and after the change enhanced the change’s urgency and reflected the project’s success.
5.4.2 Limitations:

On the other hand, there were some boundaries for this project. One of them was the limitation in time and area to figure out the required change and implementing it since the project focused on the medical retina clinic only in the ophthalmology department. Furthermore, carrying out several methods for evaluation by one person (me) created pressure and load to reach the objectives within the required time and also it is considered as a source of bias. But this was the only possible way to be done because of the busy environment, workload and time inadequacy. Moreover, the study sample was not too large in compare to samples in the literature reviews but this project was accomplished in short period of time and it focused on one clinic only in the outpatient eye department where almost same patients visit it regularly. Lastly, lack of my authority increased the need for arranging meetings with the managers to get approval for each step.

5.5 Impact of the Change Project on the Organisation:

The implemented change resulted in many advantages and different impacts on patients, stakeholders, managers as well as the whole organisation. Firstly, on patients level: the change produced big enhancement in level of patients’ satisfaction and the provided services by increasing the number of patients treated per session. Secondly, on ophthalmology department level: this project showed the benefits of applying changes in practice and opened discussions for studying patient’s pathway in other eye clinics to search for improvement. Thirdly, on management and staff level: the change resulted in getting further support from the service manager and the head of the
ophthalmology department to search for further developments and empower the staff to share their suggestions and ideas for creating changes. Moreover, because of the positive consequences of the project, I was asked to arrange several training and learning sessions for eye department’s staff and other employees from different outpatients departments in the organisation to foster initiating further developments which was hold under managerial supervision with presence the heads of the outpatient departments.

Finally, on organisational level: since the project’s outcomes have been achieved successfully, this change facilitated the organisation to meet and promote its values and visions which mostly focus on patient (Put patient first) and improve the capacity of the services to make the best use of the available resource. Reducing the average waiting time to one hour after the change, enhanced the calling for applying the Golden Hour project in all outpatient departments within the trust and it maintained the commitment to reach the required targets.

5.6 Recommendations for Future Improvements:

The recommendations for the coming future are to carry out patients satisfaction survey regularly and to update the questionnaire to reflect all patients’ perceptions and understand their needs.

Moreover, it is important to repeat patient’s movement observation and measuring times to compare the data and search for further modification to raise patients’ satisfaction to 100%.
Understanding the concept of patients experience and patients satisfaction and their relations and dimensions is recommended for future improvement. This may help in focusing on quality of questions in patients survey and in differentiating more effectively between practices.

During conducting this project there was a complaint by the physician who works in the injection room on time and effort consumed on paper work and entering patients’ information on the system. So in my opinion, it is important to interview the staff, understand the problem and study the possibility for initiating change project for that matter.

Other recommendation is to focus on the golden hour project and try to implement it in all clinics as it can assist in improving patients’ happiness and the trust’s performance and reputation.

In this project, it was found from patients questionnaires that none of the patients were informed about the approximate time they had to wait when they reached the clinic. Setting patient expectation can help in preparing patients to wait, reducing complains and making them less irritated (Keys, 2012) so further articles and searches are needed to be done on this topic.

In the literature review some articles showed that there is link between patients' satisfaction and utilising the waiting time by doing health educational session as in studies by Umar et al (2011) as well as Oermann et al (2001). The letter one was made in eye clinic in US and showed that the group which underwent the educational session got more knowledge about eye diseases and resulted in more satisfaction in compare to other patients. Because of that, I suggested some modifications which can be
implemented in the waiting area of the medical retina clinic to fill patients’ times and decrease their feeling with long delays, for example adding some medical journals and leaflets that contain information on different eye conditions and information on eye health. Also putting patients’ educational screens on different walls of the waiting room can help in improving patients’ knowledge on their eye diseases and the available treatments. This idea was discussed with the management and was considered by the head of the ophthalmology department who welcomed it to be conducted in all eye clinics, so numbers of patients’ educational screens are being ordered to be introduced in all waiting areas in the outpatient eye clinics in the coming months.

5.7 Conclusion:

In conclusion, I believe the change project was implemented successfully in the organisation trust as its aim and objectives were almost achieved in the required time. The HSE change model managed the project process and helped in structuring the framework for the change. Moreover, there was a big connection between the project and the reviewed articles in the evaluation methods and the outcomes especially in reducing waiting times and improving patients’ satisfaction.

The change project was accomplished effectively by the involvement and commitment of the key stakeholders and got the staff buy-in through constant enthusiasm and communication. Additionally, the project had significant impacts on the organisation and some recommendations are started to be considered.
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Appendices:

Appendix 1: Analysing Culture: The Culture Web

(Johnson & Scholes 2011)
Appendix 2: The Temple Paradigm:
Appendix 3: The Swiss Cheese Model of Accident Causation (2000)
Appendix 4: Lewin’s Three-Stage Process of Change

- Ensures that employees are ready for change
- Unfreeze

- Execute the intended change
- Change

- Ensures that the change becomes permanent
- Refreeze
Appendix 5: Kotter's Eight Steps of Change

“Kotter's Eight Steps of Change”

1. Increase Urgency
2. Build the Guiding Team
3. Get the Right Vision
4. Communicate for Buy-in
5. Empower Action
6. Create Short-term Wins
7. Don't Let Up
8. Make it Stick

Appendix 6: Senior & Swailes (2010) OD Model of Change
Appendix 7: Kurt Lewin – Force Field Analysis

FORCE FIELD ANALYSIS – KURT LEWIN

DRIVING FORCES
(Positive forces for change)

RESTRAINING FORCES
(obstacles to change)

Present State or Desired State

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Appendix 8: Stakeholders Typology (2010)
Appendix 10: The “Box” Model for Evaluation Design (2002)

Environment

The intervention which is evaluated is inside the box

Target: before
- People
- Organisation

Time 1 (Dec. 2013)

Target: after
- People
- Organisation

Time 2 (Dec. 2014)

Evaluator observes & selects features of the intervention which they describe
*(may also describe the people receiving the intervention)*

Intervention
[E.g. a service or policy]

Before:
- Patients
- Population

After:
- Patients
- Population
Appendix 12: Type 3: Single before-&-after Design (Outcome) (2002)
Appendix 13: Patients Satisfaction Questionnaire

<table>
<thead>
<tr>
<th>Patient Satisfaction Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Outpatient visit: Your experience</td>
</tr>
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</table>

Why are we doing this survey?
The trust would like to find out more about your experience of treatment and care during your clinic visit. Your views are important to us and we would be grateful if you would take a few minutes to complete this confidential survey. We will use the information from this survey to improve treatment can care.

Please answer all questions-thank you

1. Age: 45-54 55-64 >64
2. Gender: Male Female
3. Have you ever visited Retina medical clinic? Yes No
4. Were you informed about long you would have to wait? Yes No
5. How long after the stated appointment time did your appointment start?
   - <15min
   - 15-30min
   - 30min-1hr
   - >1hr
6. How long did you wait to see the physician and receive the treatment?
   - <15min
   - 15-30min
   - 30min-1hr
   - >1hr
7. How long was the overall waiting time for your visit?
   - 30min-1hr
   - 1-1 hr and half
   - 1hr and half -2hr
   - 2hr-2hr and half
   - 2hr and half -3hr
   - >3hr
8. Are you satisfied with waiting time?
   - Not satisfied
   - Satisfied
   - Very satisfied
9. What do you evaluate our quality of care?
   - Poor
   - Fair
   - Good
   - Very Good
   - Excellent
10. How likely are you to recommend our outpatient department to friends and family if they needed similar care or treatment?
    - Extremely likely
    - Likely
    - Neither likely nor unlikely
    - Unlikely
    - Extremely unlikely
    - Don’t know

Thank you very much for your time!

Data protection statement
Thank you for taking the time to complete our survey. The information you have provided will be treated confidentially. The comments that we have received will not be attributed to any individuals. This information is also used by the Foundation Trust to help us monitor the effectiveness of our equality policies and to help comply with legal requirements.
Appendix 14: Kirkpatrick Evaluation Model