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The Impact of Communicating Important Preoperative Information on Reducing Non-attendance Rates for Surgery

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A dissertation submitted in part fulfilment of the degree of MSc in Healthcare Management, Institute of Leadership, Royal College of Surgeons in Ireland

2012
Declaration:

“I hereby certify that this material, which I now submit for assessment for the Project/Dissertation Module on the MSc in Healthcare Management is entirely my own work and has not been submitted as an exercise for assessment at this or any other University.”

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Date: 24 May 2012

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Abstract

Non-attendance for ophthalmology elective surgeries was found to be one of the top reasons for low operating theatre utilisation in a tertiary teaching hospital in Riyadh. The rate of non-attendance in the year 2011 was 14.5%. The project’s interventions set a goal of decreasing surgery cancellations that resulted from non-attendance by communicating the important preoperative information to the patients and the use of telephone and short text message reminders prior to the surgery. The framework that was used to manage this project was the Health Services Executive (HSE) change model. As a result of intervention through calling and sending reminders to the patients, the rate had declined to 8.8% out of total 272 patients referred for surgeries. This difference in the non-attendance rate was found to be statistically significant which indicates the effectiveness of the telephone and short text message intervention. The other component of intervention (patient guidance) was introduced in addition to the previous ones resulted in a slight increase in the non-attendance rate to 12.8%. However, comparing this increase (4%) to the previous 8.8% it was found to be statistically insignificant which indicates that the trend is still towards improvement. To test the impact of these interventions on the operating theatre utilisation, the review figures of the theatre utilisation in the year 2012 were compared with the year 2011. The comparison has shown improvement in the average utilisation for the year 2012 (74.59%) compared with a percentage of 65.48% for the year 2011.
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_In the name of Allah most Compassionate most Merciful_

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Chapter 1 - Introduction

1.1. Introduction

It is becoming increasingly difficult to ignore the negative impact of patient non-attendance for elective surgery on loss of hospital resources especially with scarcity of such resources. Other potential consequences include; long waiting lists, underutilisation of available facilities, disturbing the planned work schedules and depriving other patients of the opportunity of an earlier surgical intervention (Lee et al., 2000; Mason, 1992). Hospitals invest considerable resources in maintaining operating theatres and having theatre team available on an agreed schedule (Garg et al., 2009). However, unexpected non-attendance of scheduled patients is of concern for the reason that those patients cannot be replaced from the waiting lists at an early stage.

The past decade has witnessed rapid advances in the field of information and communication which obviously reflected its advantages on healthcare systems. However, there has been little agreement on its importance in a major problem such as patient non-attendance. In healthcare, different approaches can be taken to tackle the problem of non-attendance, such as telephone or SMS reminders prior to the appointment. The care of patients involves many different individuals who need to share information and discuss it with the patient (Coiera, 2006). Therefore, hospitals must choose the appropriate approach to assure that the patient is receiving the correct message at the right time.

The ultimate goal of this change management project was to test the effectiveness of communicating important preoperative information on reducing the surgical non-attendance rate in a tertiary teaching hospital in Riyadh. This report has been divided into five chapters. Chapter 1 is a general introduction about the report. It describes the nature of the change, the rationale for carrying out the change and the aims and objectives from the change. Chapter 2 critiques the literature on the project topic area. It also provides evidence to support the rationale for the change. Chapter 3 critically discusses the nature of change and different models. It gives a justification of the selected change model as well as an overview of the change process carried out under the steps of the change model chosen incorporating issues of resistance and power. Chapter 4 discusses the evaluation process, outcomes and the financial impact of the change. The last chapter discusses the impact that the change has had.
on the organisation, strengths and limitations of the project, implications of the change for management and recommendations for future improvements.

Throughout this report, the abbreviation OR is used to refer to the operating theatre and surgeries as well. The abbreviation SMS stands for Short Message Service. The term “non-attendance” will be used to refer to the patient who missed his/her surgery appointment without cancelling it. It has been used in most of the literature on this topic. The term “no-show”, abbreviated NS, is used in the United States while in the United Kingdom; a patient who failed an appointment is called “did not attend” abbreviated DNA. The three terms give the same meaning and can be used interchangeably.

1.2. Nature of the change
The project was undertaken in a tertiary hospital in Riyadh which has a capacity of 104 beds. This hospital is a university-affiliated hospital which offers Ophthalmology and Otolaryngology specialised medical services to the general public. It also has a Diabetes Centre as well as general clinics for other specialties. The project has tackled the problem of non-attendance for surgeries in the Department of Ophthalmology. This department has 16 surgeons who are operating in different sub-specialties. Which are:

- Glaucoma
- Cornea, External Eye Diseases and Refractive Surgeries
- Vitreo-retina
- Oculoplasty
- Strabismus and Paediatric Ophthalmology.

The ophthalmology clinics receive both follow-up and new patients referred from other hospitals and primary healthcare centres in Riyadh and many hospitals in the country as well as the patients from the ophthalmology emergency unit within the hospital. The total number of patients who were seen in the year 2011 was 17,249 patients.

There was a need to make a change in the patient’s pathway through the admission process by adding a step to communicate important preoperative information. This service was not provided to this group of patients prior to the change. The author of this report was assigned as the project team leader to provide guidance, instruction, direction and leadership to the
project team members for the purpose of achieving the expected outcomes. The following briefly describes the patient’s pathway before and after the change:

**Before the change**

1. All patients in whom an ophthalmic surgery was requested were receiving the date of admission and an explanation of the procedure by the surgeon.
2. Patient was directed by the clinic nurse to the admission office where the admission date was entered to the hospital information system and an appointment slip for admission was given to the patient.
3. After that, the patient was visiting the health educator whose role was to ask some questions about the patient’s health status to be able to decide which clinic to be visited in the pre-hospitalisation unit. According to the patient’s answers, the health educator gives appointment with either Anaesthesia or Medical Clinic. The health educator gives the patient oral instructions to be followed in the next visit.

**After the change**

One step was added to the patient’s pathway which is visiting the OR coordinator. The patient was directed from the clinic by the nurse to the OR coordinator whose main role was to guide the patient to the places he/she will visit during the preoperative pathway, provide each patient with supplementary written information about the pre-admission process and call and/or send SMS to the patient as a reminder prior to the surgery date.

**1.3. Rationale for carrying out the change**

There is an increasing concern that the utilisation of various ophthalmology operating theatre resources at the hospital is affected by the number of patients who do not show up for surgeries. This can be seen from the rate of non-attendance in the year 2011 where the number of booked ophthalmic procedures was 2804 and a non-attendance rate of 14.5% with a number of 408 patients who did not show up for surgeries. The hospital has studied its OR utilisation in details and it was found that one of the top reasons for low OR utilisation was related to the factor of non-attendance. Within the hospital’s plan to increase the OR utilisation, this project was tackling the reason for non-attendance. The project’s interventions set a goal of decreasing elective surgery cancellations that resulted from non-attendance.
1.4. Aims and objectives

The aims and objectives of this project were set around the SMART (Specific, Measurable, Attainable, Realistic and Timely) goals tool (Rubin, 2002). The ultimate goal (aim) of this project was to reduce surgical non-attendance rates by communicating important preoperative information to the patients and to achieve this aim, the following objectives were undertaken:

1. Evaluate the effectiveness of telephone and SMS reminders on reducing non-attendance rate for ophthalmic surgeries.
2. Improve the utilisation of operating theatre resources by reducing the number of non-attendance.

The team was expecting the project to be a good opportunity to get a feedback from this group of patients about the provided service in aiming to use what will be learnt from this project to improve the surgical service. It has to be noted that the previous objectives were expected to face some limitations according to the availability of an updated patient details database, trained human resources and professional change management skills as well as the potential threats of resistance to change among involved stakeholders.

1.5. Summary

No-shows of patients for their appointments and a failure to cancel them with enough time to give an opportunity for other patients who are waiting to receive the care are a major drain on hospital resources. When seeking to reduce no-shows, healthcare providers are advised to more actively involve the patients in the appointment making and communicate the required information (Influence At Work BDO LLP, 2011). Hospitals must employ the effective ways to communicate the important information to patients and tackle the wastage consequences of no-shows.

This chapter has given an overview of the change, the rationale for selecting such a change and its aims and objectives. It was very important to search the previous literature and find a good amount of resources to support the need for this change. This has helped in learning from others’ experiences and getting the knowledge from the previous studies to start from where others have reached. The following chapter starts off with an overview of the reviewed literature to go further and discuss the key themes on the change project topic that were identified to be important for the future of this project.
Chapter 2 – Literature Review

2.1. Introduction

A limited amount of the literature focuses on the non-attendance for surgery in relation to communication of preoperative information and operating theatre utilisation. By employing the effective ways to communicate the important preoperative information to patients and tackle the wastage consequences of non-attendance, better utilisation of time and resources will be achieved. This chapter focuses on the literature on this change project topic area. It provides evidence to support the rationale for the change and summarises the findings of the previous literature. A number of articles were found to be relevant to the topic and some of the main methods of measurement, interventions and results are discussed here. It is worth saying that some studies were conducted in surgical practices and others in out-patient clinics.

A search strategy was set at the beginning of this literature review to enhance thinking process regarding the topic and focus on the most relevant literature. The used databases were: EBSCO (Medline & CINAHL), SciVerse Scopus, PubMed and Ovid as well as the “Google Scholar” search engine. The search was conducted using the keywords: No-shows, non-attendance rate, patient not turning up, Did-Not-Attends (DNAs), preoperative education, preoperative teaching and theatre utilisation. To refine the search, techniques including Boolean connectors (OR, AND), ex. (theatre utilisation AND non-attendance rate), and quotations (“X”), ex. “preoperative patient education” were used. This was to assure getting the exact required information, save time and effort and avoid undesired widening. In addition, backward and forward search were used to track published information by examining the reference lists of the selected studies and looking at their citations.

An inclusion/exclusion criteria was determined to develop the theoretical and conceptual framework and outline the construct of writing process (Randolph, 2009). The answers to the following questions from previous literature were sought:

1. What are the main reasons for patient non-attendance?
2. What are the known potential interventions to reduce the non-attendance rates? And how successful they are?
3. What is the importance of preoperative information (in terms of patient attendance for surgery)?
4. How can non-attendance of patients for surgery affect theatre best utilisation (in terms of wasting resources)?
5. Does patient non-attendance affect surgical waiting lists?

The numbers of potentially relevant articles found using the keywords and keywords combinations for every database were: EBSCO = 203, SciVerse Scopus = 1636, PubMed = 188, Ovid = 282, and Google Scholar = 3320. The search was limited to research articles, full text and English language. A search process of filtering titles, abstracts and retrieve the relevant references was repeated until reaching 29 articles. Those found to be the most meticulously focused literature that is highly related to the topic and follows the inclusion criteria. Articles included after reading full text are 15. Most of the selected papers were from EBSCO database. A grid which shows an analysis of the reviewed studies is included in appendix 1.

2.2. Review themes

2.2.1. Reasons for non-attendance
To date, various methods have been developed and introduced to measure the non-attendance rates at hospitals. Reasons for non-attendance were sought in different ways as well. Of the 15 papers included in this review, 8 explored different reasons for non-attendance by using different methods.

Lee et al. (2000) sought the reasons for non-attendance by contacting patients who did not attend their preoperative appointments. Of 528 bookings for preoperative appointment, 15.3% of patients failed to attend. The study found that reasons for patients’ defaulting were: appointment forgotten; operation refused; operation done in other hospital; and operation date changed. 24 out of 81 (29.6%) defaulting patients could not be contacted. The same method was used by Parekh et al. (2003) when they conducted telephone interviews to ascertain a reason for patients’ non-attendance. The non-attendance rate was 11% for outpatient, 3% for endoscopy and 20% for elective operating theatre appointments. All defaulters were interviewed and reasons given by patients were: concurrent illness; personal; holiday; no longer required; and no reason.
Scott et al. (2002) sought non-attendance reasons for patients where a barium enema was requested. They compared the reasons between two groups before and after an intervention of personal contact, with supplementary information, during the booking process. The non-attendance rate for the intervention clinic was 2.5% compared with 15.5% for the comparison clinic. They used telephone calls as a data collection tool and found that reasons for non-attendance were: did not receive appointment; forgot appointment; afraid of investigation or result; other commitments; symptoms resolved; and no reason given.

A retrospective method of collecting non-attendance reasons from ward books was used by Kok & Singh (2010) in a study to measure plastic day surgery non-attendance rate. Their non-attendance rate was 1.79%. They combined their method with telephone calls if reasons were not recorded. Reasons obtained were: changed mind; did not receive letter; forgot appointment; afraid of surgery; no time; unwell; and miscommunication. Murdock et al. (2002) combined telephone calls with a questionnaire survey to explore non-attendance reasons in a gastroenterology clinic which had a non-attendance rate of 14%. The explanations for non-attendance were: forgot to attend or to cancel; no reason; clerical error; felt better; fearful of being seen by junior doctor; inpatient in another hospital; and other miscellaneous reasons.

Morrissey et al. (1989) identified 20 reasons for non-attendance of patients booked for operation in the department of otolaryngology which had a non-attendance rate of 14.6%. They used a letter survey as a method of collecting data. The most common reason was upper respiratory tract infection followed by operation not needed and appointment inconvenient. Another prospective postal survey for ophthalmology clinic non-attendance was conducted by Potamitis et al. (1994) when they listed 16 possible replies and kept a space for any alternative explanation. The non-attendance rate was 9.9%. They found that the most common reason was patient unwell followed by did not remember. A qualitative paradigm was used by Mason (1992) to examine reasons for non-attendance at out-patient clinics. The researcher conducted 3 kinds of qualitative measuring methods (open-ended interviews, semi-structured interviews, and direct observation) with professionals and defaulters. It concluded that causes of non-attendance were multi-factorial.

Literature proves that reasons for non-attendance are generally classified as multi-factorial. They differ across healthcare settings, practices, and/or times. It would have given more
strength to the studies if the limitations faced by the researchers were acknowledged. The analyses of the collected data in most of the reviewed papers used a descriptive approach with results expressed as percentages. This gives an impression to the reader that results would change according to other factors. The reliability and validity of the used measures were not clearly reported.

2.2.2. Most successful interventions

There have been several successful interventions to reduce non-attendance rates in the literature. Different authors have used telephone reminders as an intervention and some of them have combined it with other tools. Lee & McCormick (2003) telephoned patients a week before their appointments and asked them if they intended to come. The used intervention resulted in a decline of the proportion of unused beds from 24.3% to 4.6%. The study concluded that phone reminders are useful for encouraging patients to keep their appointments. Questionnaires along with telephone screening were used by Basu et al. (2001) to examine their impact on attendance for ambulatory surgery. The cancellation rate was only 2.25% compared to the previous year’s figures which were between 8 – 12%. They found them as a very effective tool to reduce the rate of cancellations and it can make an impact on the non-attendance rate.

Hardy et al. (2001) conducted a prospective study to evaluate the effect of information given to patients along with a telephone reminder before appointments. An information pack was sent to the patients two weeks before the appointment and one week before they were phoned. They found that this intervention has dramatically reduced outpatient non-attendance from 15% to 4.6%. Non-attendance rate was 7.3% in those sent a pack but not phoned and 1.4% in those sent a pack and phoned. Another study targeted the factors that can be easily affected by an intervention of teaching patients through telephone calls about important preoperative information (Haufler & Harrington, 2011). They were able to decrease the top ten reason of surgery cancellation which is patient no-show from 25.6% to 18% of cancellations. Scott el al. (2002) proposed an approach of personal contact combined with supplementary information and examined its influence on non-attendance rate. Their study showed that simple measures of providing increased patient information and a personal contact within the hospital substantially improved attendance rates as mentioned previously.
The reviewed literature is quite replete with evidence of the importance on improving hospital-patient communication. This communication was improved by the interventions of telephone reminders and personal contact with the patients. Those interventions were found to be used in most studies and have shown their effectiveness in reducing the non-attendance rates.

2.2.3. The importance of preoperative information

The previously mentioned study by Lee et al. (2000), offered a multidisciplinary service to the patients who are to undergo elective operations. In this half-day programme, patients were assessed by surgeons and anaesthetists 2-3 weeks before the surgery, as well as counselled by nurses if necessary. A health talk, ward tour and operating theatre orientation were given to the patients as a group. This programme provided the patients with the required preoperative information and showed its positive effect on non-attendance rate.

Telling patients what to expect, reduced the non-attendance rate in the study of Hardy et al. (2001) from 15% to 4.6%. The information pack sent to the patients 2 weeks prior to their appointments, outlined their forthcoming visit. This information pack stated the name and location of clinic, the doctor’s name, day and time of the appointment, where to park, and what to bring. It described what would happen during and after the appointment with a flow diagram summarising each step of the visit. It also specified what number to call if they are unable to attend.

El-Dawlatly et al. (2008) conducted an audit to identify reasons of cancellation of elective surgery. The study found that the most common reason was patients’ non-attendance (35%). It was obvious to the researchers that there was a problem in communication with patients scheduled for surgery. Therefore, they recommended the need for communication improving initiatives among their organisation.

In the study by Scott et al. (2002), personal contact with supplementary written information was provided as an intervention to communicate important information to patients who will undergo barium enema and improve rates of attendance. Patients were accompanied by a nurse practitioner to the radiology department. She reiterated the explanation of the procedure and provided each patient with a leaflet regarding the procedure. She also confirmed the patient’s contact details and provided them with her telephone number for further information.
or assistance. The post-intervention non-attendance rate was 2.5% compared with 15.5% for the comparison group.

As previously mentioned in this review, the intervention initiated by Haufler & Harrington (2011) of providing patients with important preoperative information was able to decrease the top ten reason of surgery cancellation which is patient no-show. Their calls provided an avenue for patient education about preoperative policies and preparedness. The nurses who were calling the patients used a script when explaining the importance of restrictions, reasons for rules and the likelihood for cancellation of procedures. If any patients’ further needs were identified during this call, the nurses were able to follow up with the clinic, anaesthesia team or surgeon.

The results of the discussed interventions have shown the importance of communicating preoperative information to the patients. Such initiations have provided the patients with the needed preoperative information and gave them the opportunity to call the hospital if more information or assistance was needed. The benefit of a patient oriented practice would be reflected as a better use of hospital resources and improved patient education. The selection of the appropriate approach that suits the organisation’s situation has proved its effectiveness in reducing non-attendance rates.

2.2.4. Theatre utilisation

Parekh et al. (2003) conducted a prospective quantitative study to see what percentage of a consultant surgeon’s time was being wasted as a consequence of patients’ non-attendance for surgery. They found that one-fifth of the consultant’s theatre time was wasted because patients did not turn up. This finding was similar to that of Kok & Singh (2010) who found that non-attendance for day surgery wastes hospital resources and has significant financial implications. They also stated that a low non-attendance rate maximises theatre utilisation. According to Macario (2006, as cited in Haufler & Harrington, 2011), one of the eight indicators of OR efficiency is a day-of-surgery cancellation rate of less than 5%. The intervention of Haufler & Harrington (2011) which targeted the no-show problem, top 10 reason of surgery cancellations, increased the OR use from 72.9% to 75.8%.

Lee et al. (2000) mentioned the indirect effect of preoperative programme on the efficient use of operating theatre time by reducing surgery cancellations. This was also identified by the
study of Basu et al. (2001) which showed that questionnaire and telephone screening can have an impact on both theatre time and cost by reducing non-attendance rate. Shah & Bourne (2010) concluded that theatre wasted time can be reduced by improved patient attendance of pre-assessment clinic. Finally, Garg et al. (2009) highlighted the need for better cancellation of scheduled surgeries to avoid patients’ non-attendance as late cancellations was a major cause of inefficient use of operating room time and a waste of resources. The study also stated that a better utilisation of operating theatre would be achieved if proper administrative measures are taken and highlighted the need of proper planning among staff to complete the OR list daily.

A considerable amount of literature has been published on the impact of the non-attendance for surgeries on the utilisation of operating theatre. These studies have given a significant correlation between the non-attendance rates and operating theatre utilisation. However, they would have been more convincing if the authors acknowledged their faced limitations.

**2.2.5. Surgical waiting lists**

Patient non-attendance is one of the main factors that negatively affect surgical waiting lists. Parekh et al. (2003) suggested the education of general public for reducing non-attendance rate that waiting lists are partially their fault. They also stated that even if patients rang 48 hours before the date of their surgery, this is a too short timeframe to fill the vacant slot with a suitable patient. Several studies have suggested considering the importance of replacing the cancelled patients at an early stage to manage surgical waiting lists. Morrissey et al. (1989) suggested that waiting lists could be reduced by confirming that patients would attend for operation and by screening to prevent unnecessary admissions.

Non-attendance hampers efforts to shorten waiting lists as stated by Lee & McCormick (2003). Lee et al. (2000) revealed that their intervention of preoperative programme acted as a checking mechanism to ensure the presence of the patient for surgery and gave a chance for an earlier operation to other patients who needed such surgery. Hardy et al. (2001) agreed with these findings when the authors reported that reducing non-attendance offers an opportunity to make a better use of hospital resources and to reduce waiting times. Finally, the study by Basu et al. (2001) showed that combined questionnaire and telephone screening can reduce waiting lists.
Reducing non-attendance rates had proven a positive impact on waiting lists. This indicates that the effective improvement is not always necessarily through adding more resources but via managing the available ones.

2.3. Summary
This chapter has discussed what constitutes the best practice in terms of effective communication of important preoperative information to reduce non-attendance rate and provided an evidence to support the rationale for the change. In the light of research discussed in the literature review chapter, it was possible to recognise the importance of providing appropriate information to patients to become more informed about their care. The magnitude of the non-attendance problem was explored and a gap was found in the literature conducted in the Middle East region. A research question to tackle non-attendance in relation to effectively communicate preoperative information has not been asked or answered in the region. Therefore, this project decided to employ a precisely weighed combination of the previous successful interventions to facilitate the process of making informed decisions by patients either to attend their appointments or to cancel them and hence give a chance of an earlier operation to another patient.
Chapter 3 – Change Process

3.1. Introduction
This chapter critically discusses the nature of change and different models. It gives a justification of the selected change model which is the HSE change model (HSE, 2008). The chapter also gives an overview of the change process carried out under the steps of the chosen change model; initiation, planning, implementation and mainstreaming incorporating issues of resistance and power. It summarises the main issues arising from the change process.

3.2. Critical review of approaches to change
Landy (1989, as cited in Langabeer, 2008) stated that most people dislike change, or rather, dislike the vagueness that accompanies change and he mentioned that this idea is supported by the well-documented psychological research. Change is essential for any improvement initiation and because it is generally perceived to be negative, it is important to minimise its resultant disruptions. Langabeer (2008) has suggested a formula to overcome the change and has mentioned that without all the components of this equation, change management cannot be successful. It can be shown mathematically as: \( Y = f(m,p,a,r) \)
where
\( Y = \) successful change management
\( m = \) management and leadership skills
\( p = \) an operational plan with a vision and strategy
\( a = \) alignment of incentives with those that are sponsoring the change project and those that are working on and for the project
\( r = \) adequate resources.

One question that needs to be asked before initiating a change is which change management approach is the most appropriate for the selected change? This question is a very important one for the reason that the success of this change initiative will be positively or negatively affected according to this selection and the selected model will characterise the plan of the change process. There are different types of models of change and some of them are critically discussed in this section.
Kurt Lewin developed Lewin’s model of change in 1951 to summarise what he believed were the basic steps in good planned change (Baulcomb, 2003). He conceptualised change as a three-stage process:

- unfreeze;
- change;
- refreeze.

This model demonstrates the move from the actual situation to the optimal one in a particular area. It works with different kinds of change and it helps to visualise, plan and manage each stage of the change (Walshe & Smith, 2006). Lewin’s model is a simple and easily understood model for change but it is too mechanistic for a world of a continuous organisational change (Kanter, 1993).

Kotter (2007) stated that the change process goes through a series of phases in which each one usually requires a considerable length of time to produce a satisfying result. He summarised those phases in eight steps: establishing a sense of urgency; forming a powerful guiding coalition; creating a vision; communicating the vision; empowering others to act on the vision; planning for and creating short term wins; consolidating improvements and producing still more change and finally institutionalising new approaches (see Figure 1). The main advantage of this model is that this is a step by step model, which is easy to follow, but its user cannot skip any step or the change process will completely fail (Mento et al., 2002).

**Figure 1** – Kotter’s eight steps to transforming organisations (Kotter, 2007)
Another model is the Meta model of change. The aim of this model is to have a better understanding of the basic principles of change process by identifying the common themes from a broad range of change literature considering both organisational-based and individual-based change models. Its starts with studying the existing or pre-change paradigm to get the stimulus and consideration for change followed by validation of the need, preparation, commitment to act, transition, results and the new normal. The advantage of using this model is that it considers broad range fields of change which brings a different perspective of the underlying situations of change stages (Young, 2009).

3.3. Rationale for the change model selected

The HSE change model has been selected to structure the change which was carried out in this project. This model has been developed by the Health Service Executive in Ireland based on what works in reality of organisational experience and a comprehensive literature review of best practice. This model of change has been grounded in an organisation development approach which focuses on the people aspects of change. It combines the organisational development approach with project management which brings structure and discipline to the change process (HSE, 2008).

The project’s change includes the establishment of new services which are patient guidance and reminders prior to the surgery appointments. This change involves structuring a new work team, roles and practices. It also involves cultural changes by merging different ways of doing things, different values and underlying assumptions. The success of the change in this project was relying on the people who are the hospital staff and patients. For change success and sustainability over the long-term, an understanding of the culture and a people-centred approach had to be addressed. Thus, the HSE model of change was selected as it emphasises and acknowledges the necessity of addressing cultural and people aspects in order to ensure the continuity of the positive effects of change.

The impact of communicating important preoperative information to patients was the overall aim of this project. Hence, the strive for a change model which focuses on the service users, provide a comprehensive communication plan that addresses the internal and external communications, supports effective team working and supports continuous learning and evaluation was in place. Those aspects were inclusively tackled within the stages of the HSE change model and are outlined in the following section of this chapter.
3.4. Change model

The HSE change model is based on the four stages of the project management lifecycle; initiation, planning, implementation, and mainstreaming (HSE, 2008). Figure 2 demonstrates those stages, their underlying steps and the interrelation between them. The following outlines in more detail the process of the change management project using the stages of this model.

![HSE Change Model](image)

**Figure 2 – HSE Change Model (HSE, 2008)**

3.4.1. Initiation

The initiation stage of a change process involves the preparation to lead the change. Its purpose is to create readiness and capacity in the organisation, to build commitment by communicating objectives and expected outcomes in line with its overall aim, and to prepare the needed resources, including key groups and people, for a successful change. This stage determines the things that need to be paid attention to and planned for (HSE, 2008). The initiation stage of this change management project has undergone the following steps:
• **Identifying what is driving the need for change and the degree of urgency**

Change in this project was driven by performance reviews of the operating theatre utilisation. The review figures of the year 2011 have shown a decrease in the utilisation and one of its reasons was the rate of non-attendance among ophthalmology patients. It was essential to identify the driving and resisting forces associated with the change at this step through the Lewin’s force field analysis (Baulcomb, 2003).

Those drivers and resistors are illustrated in Figure 3. The drivers included; meeting the organisation’s plan to decrease the rate of non-attendance for surgeries in order to improve the OR utilisation, managing waiting times for surgeries by replacing the non-attended patient with others who are waiting for surgical interventions, the nurses’ language barrier which created a difficulty in communicating important preoperative information to the patients, providing an opportunity to introduce new services to the patients, providing an opportunity to increase patients’ satisfaction and finally the ability to update the patients’ contact details database.

<table>
<thead>
<tr>
<th>Driving forces = 15</th>
<th>Optimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>+4 Meeting the organisation’s plan to decrease the rate of non-attendance for surgeries to improve OR utilisation</td>
<td>+1</td>
</tr>
<tr>
<td>+2 Opportunity to increase patient satisfaction</td>
<td>+2</td>
</tr>
<tr>
<td>+3 Managing waiting times for surgeries</td>
<td>+3</td>
</tr>
<tr>
<td>+2 Opportunity to provide new services to the patients</td>
<td>+3</td>
</tr>
<tr>
<td>+4 Opportunity to update the patients’ contacts database</td>
<td>+4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resisting forces = 9</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-1 Allocating the space and providing the needed resources</td>
<td>-4</td>
</tr>
<tr>
<td>-2 Recruitment &amp; training of the OR coordinator</td>
<td>-3</td>
</tr>
<tr>
<td>-3 Increased anxiety of losing status among the admission staff</td>
<td>-2</td>
</tr>
<tr>
<td>-3 Fear among nurses of being unable to cope with the changing of the actual practice</td>
<td>-1</td>
</tr>
</tbody>
</table>

**Figure 3** – Force field analysis (Baulcomb, 2003)

The resistors included; the difficulties accompanying the recruitment and training of the OR coordinator, the allocation of the space and providing the needed resources, the increased anxiety of losing status among the admission staff and the fear among nurses of...
being unable to cope with the changing of the actual practice. The force field analysis has helped to visualise different driving and resisting forces and reach a state of equilibrium through adopting different approaches to reduce resisting forces. The degree of urgency to change was determined by scoring the driving and resisting forces where the power of the driving forces exceeded the resisting ones as shown in Figure 3.

- **Clarify leadership roles and identify the key influencers and stakeholders**

The project team structure was built using the multi-team framework (Smither & London, 2009) by assigning a team leader for the project, involving the supporting leaders in designing the change management process and identifying who will carry the responsibilities for the delivery of each service (see Figure 4). A stakeholder analysis was considered to be a useful tool at this stage to enable identifying the range of stakeholders in the project; their influence, morale and stamina (see Table 1). The stakeholders are the people who have an interest in the operation’s activities. Those can be internal, in this case the employees; and external, who are patients and suppliers (Slack et al., 2010). By determining their levels of power and interest, the communication channels were discovered.

![Figure 4 – Project Team Structure](image-url)
Table 1 – Stakeholders Analysis

<table>
<thead>
<tr>
<th>High Power/ Low interest</th>
<th>High Power/ High Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients include their relatives and carers</td>
<td>Administration team</td>
</tr>
<tr>
<td>University Press</td>
<td>OR coordinators</td>
</tr>
<tr>
<td>Surgeons</td>
<td>Ophthalmology clinics &amp; ER nurses</td>
</tr>
<tr>
<td><strong>Low Power/ Low interest</strong></td>
<td><strong>Low Power/ High Interest</strong></td>
</tr>
<tr>
<td>Health Educators</td>
<td>Admission staff</td>
</tr>
<tr>
<td>Pre-hospitalisation staff</td>
<td></td>
</tr>
<tr>
<td>Ward nurses</td>
<td></td>
</tr>
</tbody>
</table>

- **Assess readiness and capacity for change**

Having identified the stakeholders, their levels of power and interest and the driving and resisting forces helped in determining the readiness for change which was mainly influenced by the factor of increased non-attendance rate. The change process has been supported by the hospital’s administration which provided a good level of capacity for change because this support has facilitated the availability of the infrastructure and resources.

- **Attend to organisational politics**

An understanding of the organisational politics and the power dynamics was essential to develop collaborative relations across the organisation. This was achieved by addressing the structures and processes required to support the new change (McIvor & McHugh, 2000). The previously mentioned analyses provided an effective approach for this understanding.

- **Identify the leverage points and opportunities for change**

To identify the leverage points and opportunities for change, the SWOT analysis of the current situation was the best model to be used at this stage. Table 2 shows the issues that were considered to have an impact on the change management project’s ability to achieve its objectives (Walshe & Smith, 2006).
Table 2 – SWOT analysis (Walshe & Smith, 2006).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| - The facilitation of the OR coordinator recruitment.  
  - The organisation has provided the project with the needed resources for the change initiative such as; space allocation for the newly employed OR coordinator, access to medical records, booklets printing...etc.  
  - The support and facilitation of processes from the management was well provided.  
  - The demographics of the patients who were involved in the change have covered all the groups visiting the ophthalmology clinics.  
  - Workforce skills level: the basic skills of the key person were available and training was also provided.  
  - Labour cost: the change initiative needed the employment of a new OR coordinator and with the help of the previously employed staff, the work was done in a team.  
  - SMS user through the university website was available in case of patient’s no answer. | - Most of the patients who visit the ophthalmology clinics have low and medium level of education which made it difficult to explain the preoperative information.  
  - Infrastructure: the booking system is based on surgeons and guidelines for work were not available.  
  - No booking system based on technology for surgeries.  
  - The loss of some cases in the absence of the OR coordinator. |

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats/ barriers</th>
</tr>
</thead>
</table>
| - The opportunity to create new policy and regulations for the work of the OR coordinator according to the needs and expectations of the change initiative.  
  - One of the organization’s goals to increase the OR utilisation for the year 2012 was to decrease the rate of non-attendance which is the main objective to be achieved from the change.  
  - With the increasing level of awareness among staff, a tendency to change and acceptance of the message was positive.  
  - Energy availability: as the OR coordinator was newly employed and the team leader was the student so the needed energy to implement such a change was available.  
  - Communicating the change between the team members and other stakeholders was based on meetings, memos, and emails.  
  - The technology impact on the change was coming from the previously published research found in the internet which supports the evidence for the need of change. | - Nurses want to decrease their workload and put the load on the OR coordinator.  
  - Lack of knowledge within the newly employed OR coordinator.  
  - Patients’ acceptance of the newly practice.  
  - Patients’ answer rate to the telephone reminders.  
  - Availability of contact details of the previously booked patients.  
  - No available software for data management. |
• Perform an initial assessment of the impact of the change

A project impact assessment was performed at this stage to consider the impact on the behavioural, structural and cultural issues, before and after the change (see Table 3). This assessment helped in gaining insight into the amount of attention the change required to consider during the planning stage.

Table 3 – Project Impact Statement

<table>
<thead>
<tr>
<th>Current situation (before the change)</th>
<th>Ideal situation (after the change)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavioural:</strong></td>
<td><strong>Behavioural:</strong></td>
</tr>
<tr>
<td>1. Patients: The non-attendance rate of the year 2011 showed an attitude of negligence among the patients for informing the hospital about their inability to attend the surgery appointments.</td>
<td>1. Patients: They were expected to respond to the instructions of the importance of informing the hospital about their inability to attend the surgery appointments. Their awareness of the detailed instructions and the preoperative pathway may reduce their non-attendance rate.</td>
</tr>
<tr>
<td>2. Surgeons: Some of the surgeons believed that the problem of non-attendance was a cultural issue which cannot be fixed or changed. Others were motivated to find a successful intervention to reduce rates of non-attendance and increase their surgical service productivity.</td>
<td>2. Surgeons: They should be motivated with change because their surgical productivity will increase; better utilisation of operating theatre resources will be achieved and reduced waiting times for the patients.</td>
</tr>
<tr>
<td>3. OR coordinator: Not available before the change and was recruited after this initiation.</td>
<td>3. OR coordinator: A better communication with patients was expected which could increase patients’ attendance for surgeries and improve patient satisfaction.</td>
</tr>
<tr>
<td>4. Nurses: The booking of surgeries was done at the clinic by the surgeon and patient was guided by nurses to do the investigations. There was a language communication barrier between nurses and patients.</td>
<td>4. Nurses: The language communication barrier between the nurses and patients was expected to be resolved in the availability of the OR coordinator.</td>
</tr>
<tr>
<td><strong>Structural:</strong></td>
<td><strong>Structural:</strong></td>
</tr>
<tr>
<td>After making the decision for surgery by the surgeon, he/she was explaining the procedure and book the patient for surgery with the help of the nurse. The nurse was providing the patient with needed forms and sends him/her to do the investigations. The health educator was giving the appointment of anaesthesia only and tells the patient very briefly what to do and not to do before the surgery.</td>
<td>The surgeon was expected to explain the procedure and book the patient for surgery. The nurse’s role was to send the patient to the OR coordinator to get the patient’s details and guide him/her about to the places he/she was going to visit to do further investigations. The patient was to visit the health educator where she will reiterate the explanation of the procedure and provide educational materials about the surgery as well as preoperative instructions.</td>
</tr>
<tr>
<td><strong>Personal:</strong></td>
<td><strong>Personal:</strong></td>
</tr>
<tr>
<td>The project leader was new to the process of preoperative pathway and joined the team of improving admission processes to lead this part of the project. The given role was to facilitate the change process in all its stages.</td>
<td>The project leader was expected to create the commitment for the change among involved groups and communicate its vision, deal with the issues that might come up with the change process and to provide the training for the newly employed OR coordinator.</td>
</tr>
<tr>
<td><strong>Cultural:</strong></td>
<td><strong>Cultural:</strong></td>
</tr>
<tr>
<td>The existing type of culture was a role culture which might help to achieve some of the previous mentioned objectives as well as it might be a hurdle in achieving others.</td>
<td>This project was expected to work better with a task culture where the speed of reaction, innovation, and team work is available.</td>
</tr>
</tbody>
</table>
• **Outline the initial objectives and outcomes for the change**

As previously mentioned in the introduction chapter, the aims and objectives of this project were set around the SMART goals (Rubin, 2002). The ultimate goal (aim) of this project was to reduce surgical non-attendance rates by communicating important preoperative information to the patients and to achieve this aim, the following objectives were undertaken:

1. Evaluate the effectiveness of telephone and SMS reminders on reducing non-attendance rate for ophthalmic surgeries.
2. Improve the utilisation of operating theatre resources by reducing the number of non-attendance.

• **Agree initial resource requirements**

The type of resources required to carry out the change were agreed upon during this stage. Those included; infrastructural resources, human resources and technological resources. The infrastructural resources included; the allocation of the space needed within the ophthalmology clinics for the OR coordinator, furnishing the space and providing it with the needed goods, and creating new services of patient guidance and reminders prior to the surgeries. All human resources were available within the organisation except the OR coordinator where the need to recruit a new employee came up. The needed technological resources within the office of the OR coordinator included; the availability of a telephone to call the patients and perform internal communication within the team members and providing the essential computer technology including the intranet and internet services.

It was explored from the force field analysis that the project has faced some difficulties in the process of facilitating the allocation of space and providing the needed resources for change. The nurses in the clinics were the source of this resistance at that stage as they perceived the allocation of space as source of diminishing their needed space. To overcome this kind of resistance, the team leader has used the persuasion technique to keep the nurses involved in the change process and influence their commitment to change (Conger, 1998).
• **Outline the initial business case for change**

A change management project proposal was prepared at this point. This was after having a full analysis of the current situation and the essential information needed to support the readiness to carry out this change initiative. The proposal was presented to the administration team and an approval to go on and start the change was granted.

### 3.4.2. Planning

The planning stage of the change process has provided this project with the complete task, resource requirements, service quality definitions as well as the outcome performance measurements. Those established the assurance that functional stakeholders understood their roles and responsibilities, assurance that problems are known beforehand, and helped in identifying the effective corrective actions (Kerzner, 2009). The HSE planning stage included three steps which were performed as follows:

• **Building commitment**

The vision for change was providing smooth flow and better communication services to the patients to enhance the hospital’s resources utilisation. This vision was built by the project team after a detailed analysis of the current situation during the initiation stage of the change process. The vision had to be as simple as possible because the staff needed to understand what patient attendance means for their performance and the overall hospital’s performance. To communicate the shared vision for change to different stakeholders, several meetings were conducted with the units’ heads to keep them informed about the change, its aims and objectives and the expected outcomes. Memos were also sent to be distributed to units’ members who were not able attend the previously mentioned meetings. The project leader had to personally visit all the involved units to ensure the change initiative was well communicated and clarify any vagueness within the project.

In an attempt to increase the readiness and capacity for change, the recruitment process of the OR coordinator was completed at this stage and the required space and resources were to be prepared. This has helped the project team to get ready and provide the new employee with a good period of orientation to the hospital’s system before moving to the implementation stage. There was a general orientation which involved the essential issues to be known within the hospital (see Appendix 2) and a general training program to
introduce the OR coordinator to the different tasks and units (see Appendix 3). The involvement of different hospital’s units in the orientation and training process was important. However, this has had some difficulties because of the busy staff. To overcome this kind of resistance, the resistance has been seen as a constructive tool for managing the change though engaging other departments in the change (Waddell & Sohal, 1998).

- **Determining the detail of the change**
To determine the detail of the change, the project team needed to gather more information about the current patient’s pathway during the admission process and assess its alignment with the vision for change. A gap analysis was performed to explore possible options to produce the desired outcomes. This analysis involved using the procedure of process mapping. To depict the flow and activity exchange among participants and show the sequencing from start to finish, a flow chart was created which shows the process in details (Langabeer, 2008) (see Appendix 4). This process was discussed with key stakeholders and the location of the newly provided service was decided according to the need of preoperative information within the patient’s pathway. Appendix 5 shows the redesigned flow chart with the red coloured added step.

The required change to the current situation was briefly concentrated in two main issues; the patient guidance within the first visit to the clinic and the telephone and SMS reminders prior to the surgery. Before the change, patients were not called to be reminded to attend the surgery appointment. The project team wanted to support the communication of preoperative information with reminders for comprehensive efforts and because of the evidence of its explored effectiveness from the literature review.

- **Developing the implementation plan**
The implementation planning involved lots of aspects to enable the team to assess the impact of the change with consistent communication to key stakeholders at all change levels. To ensure a safe start off, the following issue needed to be considered before moving to the stage of implementation:
  - Preparation and readiness of the OR coordinator’s room with the needed resources before implementing the patient guidance service.
The preoperative information and instructions were collected in a form of booklet to be given to the patient during the guidance session. It had to be finalised within this step to be able to get the required permission for printing. The booklets were written in large type taking into consideration the needs of ophthalmology patients and the used language was simple in Arabic and English. Appendix 6 is a sample of the day case booklet which was almost similar to the admission cases copy with minor differences in the visits flow charts and instructions. This booklet has stated the name of the surgeon and type of surgery, day and time of the appointments, and what to bring. It described what would happen during and after the appointment with a flow diagram summarising each step of the visit. It also specified what number to call if they are unable to attend.

- The job description for the OR coordinator (see Appendix 7) and a more detailed training guidelines (see Appendix 8) for the specific tasks to be performed were outlined.

- Ensure the connectivity of the IP phone to implement the telephone reminders task, the creation of the SMS account which was provided by the University’s website, the access to the Health Information System (HIS), and the Electronic Health Records (EHR). These systems provided the OR coordinator with the patient’s registered contact details. By consulting the Patient’s relations Department to get an advice from their experience with patients calling, they recommended getting the patients contact details during the guidance session to ensure having an updated database of telephone numbers (see Appendix 9).

- The implementation effective date along with the implementation plan were agreed to start on the 25th of February, 2012. All the involved people were aware to get ready for a promising start.

### 3.4.3. Implementation

Following the intensive analysis and planning to reach the most readiness and capacity to change, the implementation stage was started. Its key activities were:

- **Patient guidance**
  - Start receiving the patients booked for surgeries and providing the necessary guidance to them. To tackle the problem of non-attendance, the OR coordinator
was trained to create a sense of the difficulties that will face the patient if he/she did not attend without cancelling the appointment in advance. It was also mentioned and red coloured within the booklet of preoperative information where patients were guided to carefully read it and call the hospital if re-scheduling or further assistance was needed (see Appendix 6).

- Guide the patient to the places he/she will visit during the admission pathway by showing him/her pictures of those places in a form of pictures book (see Appendix 10). This has helped in making the patient imagine the admission pathway and decrease the anxiety from a perceived complicated admission process.

- The project faced a resistance from the admission office staff in its first days of implementation. They saw this guidance service to be a source of time wastage for the patients. The same technique of persuasion was used to overcome this kind of resistance.

- **Telephone and SMS reminders**

  - The OR coordinator called the patient to reconfirm the anaesthesia, admission and surgery appointments. If no answer, a text message (SMS) was sent as a reminder, providing a telephone number to call the hospital and confirm attendance. If the patient was not able to come or did not answer, the OR coordinator informed the surgeon to replace the patient from the standby list where she also made sure that the replaced patient was ready.

  - Patients were informed if any cancellation or rebooking was needed for any hospital related reason.

- **Liaising with the surgeons about the cancelled patients and rescheduling appointments**

  The Ophthalmology Department has 16 surgeons. Each surgeon has his/her own admission and surgical day. The OR coordinator was asked to provide each surgeon with a list of confirmed patients for surgeries and this list had to be provided during the clinic prior to the surgical day of each surgeon. The OR coordinator was able to prepare this list through performing the telephone reminders task. The surgeon replaced the patients who were not able to attend for any reason as follows:

  **Option 1**: Patients were replaced from the previously ready patients. In this case, the OR coordinator needed to call the previously booked patients to inform them about the
rescheduling and confirm their attendance. If they were not able to attend, she needed to inform the surgeon again to find other patients.

*Option 2:* Ready patients from the clinic were booked. Those patients were guided as mentioned in the patient guidance task.

- **Data management**

A meeting was arranged with the representatives from the Ophthalmology clinics, Pre-Hospitalisation clinic and operating theatre to agree the best way of communication and avoid the loss of information. The needed information to be shared with the Pre-Hospitalisation clinic is the given appointment by the Health Educator, is the patient fit to undergo the surgery and if there is postponement or cancellation due to health status. The way to communicate this information agreed upon during this meeting was to provide the OR coordinator with a daily list of appointments (see Appendix 11) and daily list of patients’ results (see Appendix 12). The need for data management was essential to prepare for the final evaluation and mainstreaming stage. The OR coordinator had to make sure that all data for the patients booked for surgeries was well managed (paper filing and electronic data entry). For more details, see Appendix 8.

### 3.4.4. Mainstreaming

This stage of the HSE change model involved two steps; making it “the way we do our business” and evaluating and learning. The mainstreaming of the change is to focus on integrating and sustaining the new ways of working with the evaluation for continuous improvement (HSE, 2008). Once a change has been accepted and implemented, the initiators of the change must keep working with the people and emphasise the positive effects of the change. This stage works on preserving the momentum generated by the change and prevent people from slowly lapsing to the old habits.

To review the project success up to this stage, a summarised report was prepared. This report has been submitted to the management of the department and the hospital to acknowledge the change achievements and to embed its positive effects. It was important for the change to be sustained to take some time and celebrate its success with the involved stakeholders. Achievement certificates were presented to the key people acknowledging their efforts. The purpose of this celebration was to provide the needed support to reach the level of integrating
the new services with the daily activities. This celebration also gave a positive effect to ensure that all stakeholders understood how the hospital operates in response to the expectations of the service users and the continuously changing environment.

The main change in this project was introducing new services of guidance and reminders to the patients. For the reason that the change has involved the patients, it was essential to integrate the new services system-wide in order to establish success within the organisation and externally with the service users. To involve the service users in this change, the project team has decided to use this opportunity in taking a feedback from the patients by giving them the chance to reflect their opinions in positive and negative manners. The last page of the previously mentioned booklet was to be filled by the patient and returned to the hospital on the day of surgery to get a feedback about the whole admission process (see Appendix 6).

To ensure that the newly introduced services have the required decision-making and performance review processes for their continuity within the system, they were connected to the clinics chain of command. At this stage the communication processes were also integrated between the main provider of the service who is the OR coordinator, the involved units’ staff, and patients. The evaluation process, which was started since the initiation stage through the whole change, was getting its shape at this stage and the learning points were explored. This process of evaluating and learning is discussed in more details in the evaluation chapter.

3.5. Summary
The change process chapter has given a review of different approaches to change. It has discussed the advantages and disadvantages of the Lewin’s model of change, Kotter’s eight steps for changing organisations and the Meta model of change. This discussion was followed by the selection of the change model for the project, HSE change model, and the rationale for selecting it. The chapter has then outlined the phases of this project using the stages of the HSE change model as a framework for the change. The progress was considered to be smooth gaining the benefit from the comprehensive followed approach. The initiation and implementation stages have used different tools to give a full analysis of the current situation to move to the implementation stage where the desired situation was achieved. The mainstreaming stage has considered a system-wide integration of the achieved desired situation.
The following chapter addresses a part of the mainstreaming stage which is the process evaluation and learning from the change. It discusses the evaluation process, outcomes and the financial impact of the change.
Chapter 4 - Evaluation

4.1. Introduction
Evaluation is the final and most important stage of any change. However, it is a continuous process which needs to be incorporated to all stages of the change. The planning for the evaluation process must consider the determination of the most appropriate measures of the expected outcomes from the change (Skinner, 2004). This will allow the impact of the change on the organisation’s quality of service and productivity to be assessed. Evaluation process takes into account the assurance of meeting the planned objectives. Its continuity allows the measurement of the deviation from the plans of change and bring things back in line. It also clears up the unexpected problems or interruptions to services. People’s behaviour to change is a very critical issue in the change management. The evaluation process allows the organisation to evaluate people’s perception of the change and does the necessary arrangements in response.

Outcomes are the benefits or changes for the organisation during or after the implementation of an activity (United Way of America, 1996). Organisations must emphasise on the measurement of change outcomes and communicate them to their members (Figueroa et al., 2002). Outcomes measurement allows the organisation to ensure that it continues to stay up with the changing needs of its external and internal environments.

This chapter begins by discussing the evaluation process of this project’s change initiative and the used methods and tools. It will then assess the outcomes and the financial impact of the change to end up with an evaluation stating whether this change initiative has had the desired effect or not.

4.2. Evaluation methods and tools
This project was set out to provide smooth flow and better communication services to the patients to enhance the hospital’s resources utilisation. This was to be achieved by a change effort tackling the problem of patients’ non-attendance. It was important to determine the methods and tools for evaluating this change during the initiation stage and create the needed capacity for evaluation through the planning stage. As stated previously in this report, the major components of the change were; patient guidance and telephone and SMS reminders.
During the initiation and planning stage, the appropriate methods and tools for evaluation were determined according to the project’s aims and objectives.

The capacity for evaluation was established to test the effectiveness of the implemented changes in the preoperative pathway. This was achieved through the use of an evaluation framework and sourcing of resources that support project evaluation planning and implementation. The evaluation framework involved two measures which were the main measures of performance to be affected by the change. Those are the rates of patients’ non-attendance and the operating theatre utilisation. The data gathering process was the responsibility of the project leader to be completed in liaison with the OR coordinator and the operating theatre staff.

To evaluate the effectiveness of communicating important preoperative information to the patients on the attendance for surgeries, the rates of patients’ non-attendance were compared before and after the implementation of the patient guidance service. The same method was used in the evaluation of the impact of telephone and SMS reminders on the non-attendance where these rates were compared before and after this newly provided service. One of the project’s objectives was to test the impact of reducing non-attendance rate on the operating theatre utilisation. To measure this effect, the performance reviews of the operating theatre utilisation in the year 2012 were compared with the year 2011. It was essential for this comparison to be significant to use the proper statistical methods as shown in the results section.

The impact of changing the daily activities among the involved people in this change had to be assessed. A project impact statement involving the behavioural, structural, personal and cultural issues were used to compare how things were in relation to those issues before and after the change. The behavioural issues described the attitude of the key people involved with the change. The structural issues involved the way roles and responsibilities were organised before and after the change. The contribution of the team leader to the old and new realities determined the personal issues of the project impact statement. Finally, the most important cultural issues were described to assess how things were done around the preoperative pathway before the change and how things have changed after addressing the affected things.
It was very important to evaluate how the team leader of this change management project dealt with the issues that came up with the process of change. This is because the project leader is responsible for making sure the project is carried out well and completed. To evaluate the performance of the team leader of this project, the leader’s perspective of the personal performance was considered as well as the key people involved in the change were asked to give an up to date evaluation on the following items:

- The ability to communicate the change vision to the stakeholders
- Communication skills
- Decision making
- Problems solving
- Time plan management
- The ability to facilitate the required infrastructure and resources
- The passion for achieving the required impact on the organisation
- Functionality
- Availability and accessibility

Understanding service user perspective is an integral component of evaluating healthcare services (CDC, 2012). Service users’ feedback consists of the opinions of patients on the care they have received. Healthcare organisations can understand patient feedback in many ways such as; surveys, audits, comments and complaints. By measuring patients’ experiences of the provided services, organisations will explore the needs for improvements (Picker Institute, 2009). The change in this project had a direct impact on the patients by implementing the newly provided services of guidance and reminders. The evaluation plan of this project considered the patients feedback to be sought. This was to be achieved by giving the patients the opportunity to convey their positive and negative perspectives. The purpose of seeking patient feedback was to give a direct insight into what is working well and what is not working well. Gathering those perspectives was planned to be at the end of the preoperative pathway to ensure having an effective learning from the evaluation.

Financial impact of the change on the organisation is to be the most important indicator of success for this project. By going back to the project’s objectives, the reader will know whether the financial impact on the hospital is achieved. As stated previously in this report, hospitals invest considerable resources in maintaining operating theatres and having theatre
team available on an agreed schedule (Garg et al., 2009). Unexpected non-attendance of scheduled patients is of concern for the reason that those patients cannot be replaced from the waiting lists at an early stage. The utilisation of different resources in the operating theatre was measured by the most important indicator which is time as it involves the availability of all resources on an agreed schedule for the patient. The number of allocated hours was compared with the number of actual hours for the surgeon who is the most important service provider in the operating theatre.

4.3. Evaluation results
As discussed previously in this chapter, a variety of methods and tools were used for the evaluation of the implemented change. The project leader was aware that the change is still considered to be in its stage of implementation and it was too early to get the final results of its evaluation. However, for the reason that the evaluation is always considered to be a continuous process, it was beneficial to the progress of this project to get preliminary results which could show the trend of its impact.

The process of enhancing the communication channels with the patients was initiated and planned starting from the month of October 2011 through January 2012. Its implementation was effective in the last week of February 2012. The data collection was completed by the end of March 2012, for the purpose of comparison with the historic data of the same period from the previous year. The introduced changes to the patient’s preoperative pathway reflected an improvement in most of the areas. However, if the evaluation was extended to compare the year 2012 with its previous, more significant results would show the real impact of this change. The key findings from evaluating those changes included the following:

- **Patient guidance and telephone and SMS reminders**
  As previously mentioned in the literature review chapter, prior studies have noted the importance of communicating the preoperative information to the patients as well as the effectiveness of telephone and SMS reminders on the attendance rates. Henceforth, this project has included a variety of ways to communicate the important preoperative information to the ophthalmology patients. These involved the patient guidance using a pictures book as stated in the change process chapter, providing the patient with a preoperative information booklet and reiterating the importance of
calling the hospital if cancelling or rescheduling was required. The telephone and SMS reminders have supported the patient guidance intervention to come up with a comprehensive change initiative.

To evaluate these interventions, a comparison between the rates of non-attendance in the year 2012 and the previous year was conducted. It has to be noted that the actual implementation of those changes started in 25 February 2012. Those rates were grouped according to the type of intervention as follows:

**Group 1:** The previous rate for 2011 was 14.5% who did not show up on surgery day out of total 2804 referred for surgeries.

**Group 2:** In 2012, as a result of intervention through calling and sending SMS reminders to the patients who were booked before 25 February 2012, the rate had declined to 8.8% out of total 272 referred for surgeries. This difference in the non-attendance rate (5.7% decrease) was found to be statistically significant (p = 0.0126, 95%CI: 1.48\% - 9.07\%) which indicates the effectiveness of the telephone and SMS intervention.

**Group 3:** The other component of intervention (patient guidance) was introduced in addition to the previous telephone and SMS reminders. Assessment of the rate after introducing the second component yielded that there was a slight increase in the non-attendance rate to 12.8\% (with limitation of the very short period of assessment). However, comparing this increase (4\%) to the previous 8.8\% it was found to be statistically insignificant (p = 0.433, 95% CI: -3.89\% - 14.6\%) which indicates that the trend is still towards improvement. Nevertheless, there may be some undetected variable(s) that may have contributed to this slight increase.

- **OR utilisation**

  To test the impact of reducing non-attendance rate on the operating theatre utilisation, the performance reviews of the operating theatre utilisation in the year 2012 were compared with the year 2011. Although it is widely known in the health services research that the outcomes of change need a long period of time to be actually measured, the percentages of time utilisation in the ophthalmology operating theatre
during the evaluation period which was five weeks (25 February – 30 March, 2012) with its relative period in the year 2011 (19 February – 25 March, 2011) were compared (see Table 4). With the statistical analysis of the collected data, the comparison has shown that the average utilisation for the year 2012 was 74.59% compared with a percentage of 65.48% for the year 2011 (see Table 5 and Figure 5). A decrease in the utilisation was clearly detected in the second week and the reason for this decrease was reported in the operating theatre due to the sand storm. With this comparison, the figures show a consistency in the utilisation for the year 2012 unlike the high variation within the figures of 2011.

Table 4 – Comparison of the OR utilisation rates 2011 & 2012

<table>
<thead>
<tr>
<th>Week</th>
<th>2011</th>
<th>Percentage of utilisation per week</th>
<th>2012</th>
<th>Percentage of utilisation per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb 19 - Feb 25, 2011</td>
<td>79.29%</td>
<td>Feb 25 - Mar 02, 2012</td>
<td>64.46%</td>
</tr>
<tr>
<td>2</td>
<td>Feb 26 - Mar 04, 2011</td>
<td>16.27%</td>
<td>Mar 03 - Mar 09, 2012</td>
<td>89.93%</td>
</tr>
<tr>
<td>3</td>
<td>Mar 05 - Mar 11, 2011</td>
<td>66.50%</td>
<td>Mar 10 - Mar 16, 2012</td>
<td>74.08%</td>
</tr>
<tr>
<td>4</td>
<td>Mar 12 - Mar 18, 2011</td>
<td>84.31%</td>
<td>Mar 17 - Mar 23, 2012</td>
<td>81.43%</td>
</tr>
<tr>
<td>5</td>
<td>Mar 19 - Mar 25, 2011</td>
<td>81.03%</td>
<td>Mar 24 - Mar 30, 2012</td>
<td>64.61%</td>
</tr>
</tbody>
</table>

Table 5 – Statistical comparison of the OR utilisation rates 2011 & 2012

<table>
<thead>
<tr>
<th>Statistics</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Valid</td>
<td>.654804</td>
<td>.749020</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>.792892</td>
<td>.740809</td>
</tr>
<tr>
<td>Median</td>
<td>.2832578</td>
<td>.1100071</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.1627</td>
<td>.6446</td>
</tr>
<tr>
<td>Minimum</td>
<td>.8431</td>
<td>.8993</td>
</tr>
</tbody>
</table>

Comparison of means using Mann Whitney U test, there were no statistically significant difference between OR utilization rates: \( p = 0.917 \)
Project Impact Statement

As mentioned previously in this chapter, the project impact on the behavioural, structural, personal and cultural issues were evaluated. These were analysed before the change and compared with their expected outcomes after the change. This analysis was conducted at the initiation stage of this project (see Table 3) and was used to evaluate those expectations and compare them with the actual impact after the change.
**Table 3 – Project Impact Statement**

<table>
<thead>
<tr>
<th>Current situation (before the change)</th>
<th>Ideal situation (after the change)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavioural:</strong></td>
<td><strong>Behavioural:</strong></td>
</tr>
<tr>
<td>1. <strong>Patients:</strong> The non-attendance rate of the year 2011 showed an attitude of negligence among the patients for informing the hospital about their inability to attend the surgery appointments.</td>
<td>1. <strong>Patients:</strong> They were expected to respond to the instructions of the importance of informing the hospital about their inability to attend the surgery appointments. Their awareness of the detailed instructions and the preoperative pathway may reduce their non-attendance rate.</td>
</tr>
<tr>
<td>2. <strong>Surgeons:</strong> Some of the surgeons believed that the problem of non-attendance was a cultural issue which cannot be fixed or changed. Others were motivated to find a successful intervention to reduce rates of non-attendance and increase their surgical service productivity.</td>
<td>2. <strong>Surgeons:</strong> They should be motivated with change because their surgical productivity will increase; better utilisation of operating theatre resources will be achieved and reduced waiting times for the patients.</td>
</tr>
<tr>
<td>3. <strong>OR coordinator:</strong> Not available before the change and was recruited after this initiation.</td>
<td>3. <strong>OR coordinator:</strong> A better communication with patients was expected which could increase patients’ attendance for surgeries and improve patient satisfaction.</td>
</tr>
<tr>
<td>4. <strong>Nurses:</strong> The booking of surgeries was done at the clinic by the surgeon and patient was guided by nurses to do the investigations. There was a language communication barrier between nurses and patients.</td>
<td>4. <strong>Nurses:</strong> The language communication barrier between the nurses and patients was expected to be resolved in the availability of the OR coordinator.</td>
</tr>
<tr>
<td><strong>Structural:</strong></td>
<td><strong>Structural:</strong></td>
</tr>
<tr>
<td>After making the decision for surgery by the surgeon, he/she was explaining the procedure and book the patient for surgery with the help of the nurse. The nurse was providing the patient with needed forms and sends him/her to do the investigations. The health educator was giving the appointment of anaesthesia only and tells the patient very briefly what to do and not to do before the surgery.</td>
<td>The surgeon was expected to explain the procedure and book the patient for surgery. The nurse’s role was to send the patient to the OR coordinator to get the patient’s details and guide him/her about to the places he/she was going to visit to do further investigations. The patient was to visit the health educator where she will reiterate the explanation of the procedure and provide educational materials about the surgery as well as preoperative instructions.</td>
</tr>
<tr>
<td><strong>Personal:</strong></td>
<td><strong>Personal:</strong></td>
</tr>
<tr>
<td>The project leader was new to the process of preoperative pathway and joined the team of improving admission processes to lead this part of the project. The given role was to facilitate the change process in all its stages.</td>
<td>The project leader was expected to create the commitment for the change among involved groups and communicate its vision, deal with the issues that might come up with the change process and to provide the training for the newly employed OR coordinator.</td>
</tr>
<tr>
<td><strong>Cultural:</strong></td>
<td><strong>Cultural:</strong></td>
</tr>
<tr>
<td>The existing type of culture was a role culture which might help to achieve some of the previous mentioned objectives as well as it might be a hurdle in achieving others.</td>
<td>This project was expected to work better with a task culture where the speed of reaction, innovation, and team work is available.</td>
</tr>
</tbody>
</table>

The expected impact of the behavioural patterns which involved the attitude of key people in the change has shown the following:

**Patients:** Their response to the change was expected to be better than what has resulted in the rate of non-attendance. However, the rates of non-attendance have
indicated a trend towards the improvement which may show a better response with this change given some time.

**Surgeons:** It was still early for the surgeons to feel the impact of reducing non-attendance rates on their productivity. Convincing them with an increase in their performance after five weeks of the change was not to be of any effect as they used to be informed about their productivity on a yearly basis. However, some doctors have admitted the positive effects of the change when they were asked to replace the cancelled patients with others from the previously booked patients or patients from the clinic as mentioned in the change process chapter.

**OR coordinator:** The attitude of the newly employed OR coordinator has shown some good result. This result was impacted by communicating the change vision to this employee and the exposure to an extensive training.

**Nurses:** The nurses were very happy to have a person who could help them in the communication with the Arabic speaking patients. They found this change to be of a positive impact which could help in having more organised work.

The structural expected organisation of the roles and responsibilities after the change was successfully achieved. The evaluation of the project leader’s performance which involved the personal issues in this statement will be discussed later in this chapter. Finally, the cultural issue on the way things were done after the change was expected to work better with a task culture where the speed of reaction, innovation and team work is available (Handy, 1999). It was very early to evaluate the intangible cultural aspects of the change at this stage of the project for the reason that changing culture is the most difficult aspect that a change initiative would tackle.

- **Leader's performance**
  The leader’s performance considered the personal perspective of the leader where the expected and actual impact were compared using the project impact statement. The project leader was expected to create the commitment for the change among involved groups and communicate its vision, deal with the issues that might come up with the
change process and to provide the training for the newly employed OR coordinator. Those were achieved to an extent which can be considered a good one. However, there have been difficulties and resistance from the groups involved in the change which the leader could overcome some and skip others.

The key people involved in the change were asked to give an up to date evaluation of the project leader. This was conducted by having informal conversations with six people and they were given the evaluation forms to fill in. They were asked to give a feedback on the ability of the leader to communicate the change vision to the stakeholders, evaluate the communication skills, the decision making, the ability to solve problems, time management, the ability to facilitate the required infrastructure and resources, the passion for achieving the required impact on the organisation, the functionality, availability and accessibility. The evaluation scale composed of: Poor, Good, Very Good and Excellent. The overall evaluation (see Figure 6) given was: 78% answered ‘Very Good’ and 22% answered ‘Excellent’. The detailed evaluation result is shown in Appendix 13.

![Overall Evaluation](image)

**Figure 6** – Overall evaluation of leader’s performance
• **Service users perspectives**

In an attempt to evaluate the service users’ perspectives on the provided services, the project has used a feedback survey which was given to the patients to be filled in at the end of their preoperative pathway as previously mentioned in this chapter. This survey was given to a number of 276 patients in the period of 25 February – 28 March 2012. Of this number 70 were booked for surgeries before the end of the evaluation period (28 March 2012). The response rate to the survey was 14.2% (10/70). This rate was found to be low which may indicate that the patient’s perspective was positive. However, this might not be true because most of the patients who returned the feedback forms had answered the questions in a general way which means that they did not understand the purpose of this survey. Appendix 14 shows the patients’ answers.

• **Financial impact**

As the change has been conducted in a public hospital where the report of the financial statements and analysis is produced on an annual basis, the actual financial impact by the change on the operating theatre was still far beyond reach. Another reason is that recruiting a new employee and facilitating the necessary resources for such a change would need longer period for evaluation. However, the operating theatre utilisation figures based on five weeks data which were compared with the last year relative weeks, have shown an improvement as stated previously in this chapter. The utilisation here which was measured by the indicator of time has involved all the operating theatre resources.

4.4. **Summary**

This chapter began with giving an understanding about the evaluation process and the outcomes of change. It was important to note that the evaluation is a continuous process which incorporates the different stage of change and even after a completed process to ensure the continuity of the achieved developments by the change. The different methods and tools that have been used to facilitate this evaluation process and measure the change outcomes were also discussed in this chapter. It has been noted that some of those tools could not help in getting the actual desired outcomes at such an early stage of the change. However, others have shown that the trend is towards improvement.
In the next and final chapter a discussion and conclusion of the dissertation report will be given. It starts with a more detailed discussion about the impact that the change has had on the organisation. It will then consider the strengths and limitations of the project and what implication did this change leave for the management. Finally, it gives a list of recommendations for future improvements.
Chapter 5 – Discussion & Conclusion

5.1. Introduction
This chapter identifies the strengths and limitations of this change project and the implications arising from this process for the management of the department of ophthalmology and of the hospital. The implications link between the issues that were identified in the change literature and became subsequently evident during the stages of the change process. These issues relate to the key concepts of the change such as: look at change as an improvement, engaging with the many groups who need to contribute to change and embedding its positive outcomes in the organisation. According to the exploration of these issues, this chapter will give recommendations for future improvements within the topic of the dissertation and other change initiatives in the hospital.

5.2. Strengths and limitations of the project
The ultimate aim of this project was to reduce surgical non-attendance rates by communicating important preoperative information to the patients. Particularly, the project set out to establish two new services which are patient guidance and telephone and SMS reminders. Those services have shown their effectiveness in decreasing the rate of non-attendance in the literature which was discussed in the literature review chapter. The project was structured and implemented using the HSE change model. It was established within the hospital’s initiatives to decrease the rate of non-attendance in the department of ophthalmology. It was supported by the hospital management for the reason that its expected outcomes meet the organisation’s needs. Therefore, the availability of the needed resources and the capacity for the change was facilitated by the hospital management.

This project has given the department an opportunity to create a new policy and regulations for the newly provided services according to its needs and expectations from the change. Those regulations have resulted in other underlying opportunities which gave positive effects on the change and the organisation in general. The patient satisfaction is considered to be a relevant outcome of improving the hospital-patient communication (Brédart et al., 2005). Such a change in the organisation is enhancing the channel of communication with the patients which is considered being a strong point that will result in an increase in patient satisfaction over time. Another opportunity that was offered by this change was to manage
waiting times for surgeries through the ability to replace the patients who were not able to come to their appointments with other patients who were waiting to undergo certain surgeries.

The nurses’ language barrier which was hindering them from communicating important preoperative information to the patients was significantly affected by this change which provided the opportunity to overcome this problem. It was mentioned in the introduction chapter that this project was expected to face some limitations according to the availability of an updated patient contact details. To overcome this, the project plan involved updating patients’ contact details during the guidance session. This also has reflected the project’s strengths in creating opportunities for problem solving. It had to be mentioned that the acceptance level to change among involved groups was of a support as well as the energy for change among the key people who are the newly employed OR coordinator and the project leader.

The limitations that faced this project included a variety of issues. The main one was that the required timeframe for such a change has only allowed for an initial evaluation of the outcomes. Although the evaluation trend has shown a direction towards improvement, the actual effects could not be measured at this point. Another limitation was the lack of information technology within the process of booking for surgeries which created difficulties in the process of retrieving the non-attendance data as those were based on the paperwork. The new services were introduced in a busy department which has eight clinics per day. The patients booked for surgeries were referred to the OR coordinator for guidance who was also requested to perform the telephone and SMS reminders, liaise with surgeons to replace the patients who will not be able to attend and do data management as well. Having one employee to work in such a busy department has had a limitation of overloading this employee with lots of tasks.

5.3. Implications of the change for management
As the change implementation ultimately depends on the attitudes and behaviours of organisational members (Herold, 2004), those members needed to look at the change as an improvement which will have positive implications on the organisation. The project’s team has considered the fact that the change will involve a transition or a journey for the individuals within the organisation. They tried to understand their perspectives and their
natural reactions through choosing the proper strategies for change (Kotter, 2008). This was achieved by conducting several meetings and creating the proper channels for communication with key people to communicate the change vision. It has supported the transition to ensure the success of the change process and engaging with the many groups who need to contribute to change. It also has helped the organisation to build collaborative relationships among the key stakeholders which is an essential feature of effective change (HSE, 2008).

As a result of the implemented change, the definitions and purposes of different terms such as; non-attendance, cancellation, postponement and re-scheduling were clarified to be differentiated. Those definitions were communicated to the involved groups. This has provided the hospital with a better organisation of the work and reflected its effects on the quality of patient care. The quality of patient care was also enhanced by the newly provided services that tackled the improvement of hospital-patient communication.

Embedding change in an organisation means ensuring that the change becomes ‘the way we do our business’ (HSE, 2008). The key was to embed the positive outcomes of the change in the organisation. The new policy and regulations for the newly provided services enabled the department to create the needed lines of responsibilities and accountability in the new system. The decision-making processes were based on transparency to ensure having the proper decisions which last longer and give positive outcomes. It is worth saying the change was integrated into the hospital’s processes and cannot work independently. Therefore, the change leader ensured its incorporation with the existing organisational processes. On the departmental level, a research team was formed to explore the reasons of non-attendance in order to build a system to refine and continuously improve the provided services (HSE, 2008). This would be achieved by tackling other reasons for non-attendance according to the research results.

5.4. Recommendations for future improvements
Several recommendations were found to be of an improvement for the organisation if undertaken. These were discovered through the different stages of change and the exploration of implications of the change for management. Although the change in this project has shown a trend towards promising results, further improvements should be considered to assess the continuity of its positive outcomes. Based on this the following recommendations are given:
The introduction of information technology to the surgical services which must include an electronic booking system that enables all the involved groups to know that a patient is booked at a certain date for a certain surgery and update the status of the patient’s journey through the admission pathway. This system will save lots of time and efforts within different individuals in the organisation and keep them updated if any change happen during the whole process. It is also recommended to connect this electronic system to the operating theatre to enable connecting between different information about the patients and produce an accurate OR utilisation figures.

It was mentioned previously in this chapter that the department has a big number of surgeons and clinics which produce a high number of patients who have surgical treatments. As a start for the change, the availability of one OR coordinator was beneficial but the recruitment of an additional OR coordinator will enable the department to increase the level of productivity and have better outcomes from the change. The additional OR coordinator will solve the absence of the current one during vacations and break times and decrease the workload to enable better data management in the future.

As the change is still considered to be in its stage of implementation, it is recommended that the organisation starts a process of commitment building that sustains change through the implementation into the daily activities of the organisation. This process must be viewed from a developmental perspective to evolve lasting commitment to change. Figure 7 shows a useful process to achieve commitment to an organisational change (Mecca, 2004). It consists of three phases: preparation, acceptance and commitment. The preparation phase prepares the staff to become aware of the possibility of change. After that the individuals make judgments about the change (i.e., “good” vs. “bad”) to form the acceptance phase. The commitment phase then demonstrates the worth of the change over time to be incorporated into the activities of the organisation.
5.5. Conclusion

Patient non-attendance at operating theatres is one of the complicated problems which have multi-factorial reasons. Consequently, it results in underutilisation of hospital resources which were managed to be available to the absent patient. The increased demand placed upon the hospital services was the main motivation of change to maintain a low non-attendance rate and maximise the use of resources. This project has employed a precisely weighed combination of the previous successful interventions found in the literature to facilitate the process of making informed decisions by patients either to attend their appointments or to cancel them and hence give a chance of an earlier operation to another patient. Those have given the opportunity to the hospital to cover many factors that negatively affect the provided services. The project was mainly tackling the importance of improving hospital-patient

Figure 7 – Stage of change commitment (Mecca, 2004).
communication. The benefits were reflected as a better use of hospital resources and improved patient education. This was achieved by implementing a patient oriented practice.

The project has provided the patients with the needed preoperative information, given them the opportunity to call the hospital if more information or assistance was needed and took this place to get a feedback about the provided services. The HSE change model has provided the project with a powerful framework through putting great efforts on the initiation stage which lead to the involvement of the many groups in the planning stage. It also secured the commitment for the implementation and gave an opportunity to perform the continuous evaluation which is considered to be the key for the project’s success.
Reference list


## Appendix 1 – Literature Review Grid

<table>
<thead>
<tr>
<th>No.</th>
<th>Source</th>
<th>Study Design &amp; Methodology</th>
<th>Population/ Sampling</th>
<th>Data Collection</th>
<th>Data Analysis</th>
<th>Validity/ Reliability</th>
<th>Ethics</th>
<th>Theme 1 (Reasons for DNAs)</th>
<th>Theme 2 (Interventions)</th>
<th>Theme 3 (Preoperative information)</th>
<th>Theme 4 (Theatre utilisation &amp; resources)</th>
<th>Theme 5 (Waiting lists)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lee, K.F, Li, A.C., &amp; Leong, H.T. (2000). Impact of a preoperative programme in the delivery of elective operative service in a district general hospital in Hong Kong. <em>Annals of the College of Surgeons of Hong Kong</em>, 4: 98-101. Country: Hong Kong</td>
<td>Design: Prospective Randomised Controlled Trial Methodology: Quantitative study (correlational) evaluated the preoperative programme (POP) activity during a 6-month period</td>
<td>Population: Patients Sample type: Comparative non-randomised Representative Sample: Patients scheduled for POP Sample size: 528 booking for POP</td>
<td>Method: Primary data Type of data: Attribute data</td>
<td>The numbers of different groups of patients were obtained and the reasons for non-attendance, cancellations, and failure to perform operations were prospectively recorded</td>
<td>Descriptive analysis</td>
<td>Not addressed</td>
<td>Reasons for patients’ non-attendance were sought and listed</td>
<td>POP provides a checking mechanism that reduces patient non-attendance for operation</td>
<td>POP indirectly reduces operating waiting time</td>
<td>POP provides avoidance of addressing problems prior to surgery at the last minute which prevents the wastage of theatre resources</td>
<td>Ideal POP should replace the cancelled surgeries with patients from the waiting list at an early stage</td>
</tr>
<tr>
<td>2</td>
<td>Parekh, D., Ball, E.L., Morris-Stiff, G. &amp; Havard, T. (2003). Hospital waiting lists – is the surgeon always blame? <em>Annals of the Royal College of Surgeons of England</em>, 85: 236-237. Country: UK</td>
<td>Design: Prospective Cross-sectional Methodology: Quantitative (survey) study assessed the inpatient and outpatient activity (DNA rates for OPD, ENDO, and OP) of a single consultant surgeon during a 1-year period</td>
<td>Population: Patients Sample type: Non-randomised Representative Sample: Patients who did not attend their appointments Sample size: DNAs of 326 patients for OPD, 9 patients for ENDO, and 98 patients for OP</td>
<td>Method: Primary data Type of data: Attribute data</td>
<td>All patients who did not attend for their appointments were interviewed over the telephone to ascertain a reason for DNAs.</td>
<td>Descriptive analysis with respect to patient demographics</td>
<td>Not addressed</td>
<td>Reasons for patients’ non-attendance were sought and listed</td>
<td>One-fifth of the consultant’s theatre time was wasted because patients did not turn up</td>
<td>Too short timeframe to find suitable patients to fill the vacant slot</td>
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<td>3</td>
<td>Hardy, K.J., O’Brien, S.V. &amp; Furlong, N.J. (2001). Information given to patients before appointments and its effect on non-attendance rate. <em>British Medical Journal</em>, 323: 1298-300. Country: UK</td>
<td>Design: Prospective Non-randomised Controlled Trial Methodology: Quantitative (comparative) study comparing non-attendance rate in new intervention group and historical controls Intervention: An information pack was sent two weeks before the appointment and one week before the appointment patients were phoned</td>
<td>Population: Patients Sample type: Comparative non-randomised, controlled Representative Sample: Patients who did not attend their appointments Sample size: 325 new patients who attended after the intervention compared with 1336 historical controls from the same clinic in the 3 years before the scheme</td>
<td>Method: Primary data Type of data: Attribute data</td>
<td>Prospective evaluation of the patients’ attendance rates in the compared groups was recorded</td>
<td>Statistical analysis: Non-attendance rates were expressed as percentage of total appointments (attenders + non-attenders + cancellations) and were compared by x² tests with Yates’s correction</td>
<td>Not addressed</td>
<td>Information pack and phoning patients before their appointments reduce non-attendance rates</td>
<td>Information pack and phone calls are effective interventions in terms of reducing non-attendance rate and effective use of existing appointment slots</td>
<td>Reducing non-attendance offers an opportunity to make better use of outpatient resources and reduce waiting times</td>
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<td>No.</td>
<td>Source</td>
<td>Country</td>
<td>Study Design &amp; Methodology</td>
<td>Population/ Sampling</td>
<td>Data Collection</td>
<td>Data Analysis</td>
<td>Validity/ Reliability</td>
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<td>4</td>
<td>Potamitis, T., Chell, P.B., Jones, H.S. &amp; Murray, P.I. (1994). Non-attendance at ophthalmology outpatient clinics. <em>Journal of the Royal College of Surgeons of England</em>. 87: 591-93.</td>
<td>UK</td>
<td>Design: Prospective Cross-sectional Methodology: Quantitative study. A 13-month postal survey of clinic non-attenders.</td>
<td>Population: Patients Sample type: Non-randomised Representative Sample: Patients who did not attend their appointments Sample size: 521 patients who did not keep their appointments (224 patients replied to the questionnaire, a response rate of 43%)</td>
<td>Method: Follow-up and new patients were sent a questionnaire containing various reasons for not attending. A total of 16 possible replies were listed and space was available for any alternative explanation</td>
<td>Data Analysis: Statistical analysis using Minstat software package. The two sample t-test was used to compare ages between those who replied and those who did not. The Ï² test was performed and the odds ratios calculated to measure any association between categorical variables. 95% confidence intervals were calculated for all the main results</td>
<td>Not addressed</td>
<td>Not addressed</td>
<td>Reasons for patients’ non-attendance were sought and listed</td>
<td>A suggestion of having a direct telephone as one of the ways of achieving better communication between patients and clerical staff that would reduce DNAs that are potentially preventable</td>
<td></td>
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<td>5</td>
<td>El-Dawlally, A.A., Turkistani, A., Aldohayyan, A. Zubaidi, A. &amp; Ahmed, A. (2008). Reasons of cancellation of elective surgery in a teaching hospital. <em>The Internet Journal of Anesthesiology</em>. 15(2).</td>
<td>Saudi Arabia</td>
<td>Design: Prospective Cross-sectional Methodology: Quantitative audit to identify the reasons of elective surgery cancellations over a period of 3 months</td>
<td>Population: Patients Sample type: Non-randomised Representative Sample: Patients booked for elective surgery Sample size: 2480 patients</td>
<td>The attending anaesthesiologists were asked to fill up a form indicating the reasons for cancellation</td>
<td>A form including cancellation reasons</td>
<td>Not addressed</td>
<td>The study was considered as an audit under quality assurance project, it did not require approval of the hospital ethics committee</td>
<td>Reasons for cancellations were sought and the most common reason was the no show up (32.5%)</td>
<td>The study recommended an intervention to improve the scheduling and admission procedure</td>
<td>The study found that there is a problem in communication with patients scheduled for surgery</td>
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<td>6</td>
<td>Basu, S., Babajee, P., Selvachandran, S.N. &amp; Cade, D. (2001). Impact of questionnaires and telephone screening on attendance for ambulatory surgery. <em>Annals of the Royal College of Surgeons of England</em>. 83: 329-331.</td>
<td>UK</td>
<td>Design: Prospective Cross-sectional Methodology: A 6-month quantitative study involving patients listed for endoscopy and local anesthetic surgical procedures. A questionnaire reviewing patients’ health status, medication and mobility was sent out 2 weeks prior to the date of surgery. Those not returning the questionnaires were screened by telephone</td>
<td>Population: Patients Sample type: Non-randomised Representative Sample: Patients listed for endoscopy and local anesthetic surgical procedures Sample size: A total of 566 questionnaires were sent out with a return figure of 477. Of those not returning the questionnaires, 56 were contacted by telephone giving an overall figure of 533 patients contacted.</td>
<td>Method: Follow-up and new patients were sent a questionnaire containing various reasons for not attending. A total of 16 possible replies were listed and space was available for any alternative explanation</td>
<td>Not addressed</td>
<td>The study was considered as an audit under quality assurance project, it did not require approval of the hospital ethics committee</td>
<td>Reasons for cancellations were sought and the most common reason was the no show up (32.5%)</td>
<td>The study recommended an intervention to improve the scheduling and admission procedure</td>
<td>The study found that there is a problem in communication with patients scheduled for surgery</td>
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<td>No.</td>
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<td>7</td>
<td>Morrissey, S., Alun-Jones, T. &amp; Leighton, S. (1989). Why are operations cancelled? <em>British Medical Journal.</em> 299: 778.</td>
<td>Design: Prospective Cross-sectional Methodology: A 1-year quantitative survey of patients who were called for operation from waiting list but were not operated on. Reasons for non-attendance were sought by letter</td>
<td>Population: Patients Sample type: Non-randomised Representative Sample: Patients who were called for operation from waiting list but were not operated on Sample size: 1002 patients</td>
<td>Survey letter</td>
<td>Descriptive analysis</td>
<td>Not addressed</td>
<td>Not addressed</td>
<td>Reasons of patients DNAs were sought</td>
<td>The study suggests that waiting lists could be reduced by computerization, by confirming that patients would attend for operation, and screening to prevent unnecessary admissions</td>
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<td>8</td>
<td>Murdock, A., Rodgers, C., Lindsay, H. &amp; Tham, T.C.K. (2002). Why do patients not keep their appointments? Prospective study in a gastroenterology outpatient clinic. <em>Journal of the Royal Society of Medicine.</em> 95: 284-286.</td>
<td>Design: Prospective Cross-sectional Methodology: Quantitative research A 7-month prospective survey. Non-attenders of a gastroenterology clinic were contacted either by letter or by telephone and were invited to complete a questionnaire to explain reasons for non-attendance</td>
<td>Population: Patients Sample type: Non-randomised. Representative Sample: Patients who did not attend their appointments Sample size: 100 patients. 68 by mail (43 returned) and 32 by telephone (30 successful) thus the response rate was 73%</td>
<td>Survey letter and telephone questionnaire to explain reasons for non-attendance</td>
<td>Descriptive analysis</td>
<td>Not addressed</td>
<td>Not addressed</td>
<td>Reasons of patients DNAs were sought</td>
<td>The study showed the advantages and disadvantages of several suggestions on improving attendance rates (giving the patient a copy of the referral letter, the use of appointment reminders (letters and telephone calls), asking the patients to make their own appointments, when non-attenders complete a questionnaire, improve communication between patient and physician)</td>
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<td>9</td>
<td>Kok, K. &amp; Singh, S. (2010). Non-attendance rates at a regional plastic surgery day case theatre and the associated cost implications to the unit. <em>Ambulatory Surgery.</em> 16(2): 28-29.</td>
<td>Design: Case Control Methodology: Quantitative research. A retrospective study over a period of 6 months at a plastic surgery department to measure the non-attendance rate and its cost implication</td>
<td>Population: Patients Sample type: Non-randomised Representative Sample: Patients who did not attend their plastic day surgery Sample size: 16 non-attenders</td>
<td>Collecting non-attendance reasons from the ward books. When the reason was not stated, patients were telephoned and reasons were obtained</td>
<td>Descriptive analysis (figures of fixed costs and the individual operations were obtained from the finance department)</td>
<td>Not addressed</td>
<td>Not addressed</td>
<td>Reasons of patients’ non-attendance were sought</td>
<td>Non-attendance at out-patient clinics is a drain on resources (economic, manpower, and patient health)</td>
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<td>10</td>
<td>Lee, C.S. &amp; McCormick, P.A. (2003). Telephone Reminders to reduce non-attendance rate for endoscopy. Journal of the Royal Society of Medicine. 96: 547-548.</td>
<td>Design: Randomised Controlled-Trial Methodology: Quantitative research. A 2-month observation period followed by 2-month intervention period (telephone confirmation) to measure the non-attendance rate for day-case endoscopy.</td>
<td>Population: Patients</td>
<td>Method: Primary data Type of data: Attribute data</td>
<td>Observation period (2 months): record the non-attendance rate for day-case endoscopy. Intervention period (2 months): a maximum of three separate attempts were made to confirm the patients' attendance by telephone.</td>
<td>Descriptive analysis (the non-attendance rate was expressed as the percentage of unused beds)</td>
<td>Not addressed</td>
<td>Phone reminders have effective results in reducing non-attendance rate for endoscopy. The study showed the importance of having up-to-date phone numbers for the patients for this intervention to be effective.</td>
<td>Non-attendance wastes health service resources (beds) and hampers efforts to shorten waiting lists.</td>
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<td>11</td>
<td>Scott, M., Allen, S., Bamford, A. Walsh, M. &amp; Clark, C.I. (2002). Influence of a nurse practitioner on non-attendance rate for barium enema. Journal of the Royal Society of Medicine. 95: 448-449.</td>
<td>Design: Randomised Controlled-Trial Methodology: Quantitative (comparative) study comparing two groups of patients referred for barium enema.</td>
<td>Population: Patients Sample type: Comparative non-randomised Representative Sample: Patients who did not attend their day-case endoscopy Sample size: Observation period: 74 beds (18 unused) Intervention period: 87 beds (4 unused)</td>
<td>Attendance records Reasons for non-attendance were sought by telephone</td>
<td>Statistical analysis: Non-attendance rates were expressed as percentage of total booked requests. Statistical analysis was by x² test</td>
<td>Not addressed</td>
<td>Reasons of patients DNAs were sought</td>
<td>Providing increased patient information and a personal contact within the hospital substantially improved non-attendance rates with both financial and practical benefits</td>
<td>Improved patient-hospital communication and providing information leaflets, which were already widely available, was likely to be offset by the savings in terms of wasted time in the radiology department and also efforts to arrange further investigations or follow-up.</td>
<td>Non-attendance wastes health service resources (beds) and hampers efforts to shorten waiting lists.</td>
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<td>12</td>
<td>Garg, R., Bhalotra, A., Bhadoria, P., Gupta, N. &amp; Anand, R. (2009). Reasons for cancellation of cases on the day of surgery – A prospective study. <em>Indian Journal of Anaesthesia</em>. 53(1): 35-39.</td>
<td>Design: Prospective Cross-sectional Methodology: Quantitative study to find out the causes of cancellation of cases scheduled on the day of surgery and to suggest measures for optimum utilization of operating room time. Reasons were noted by the attending anesthesiologist for the cancellation of the elective operating theatre bookings over a 6-month period.</td>
<td>Population: Patients</td>
<td>Reasons were noted by the attending anesthesiologist for the cancellation of the elective operating theatre bookings over a 6-month period.</td>
<td>Cancellation reasons records by the anesthesiologist</td>
<td>Descriptive analysis</td>
<td>Not addressed</td>
<td>Reasons for cancellations of surgical cases were sought. Patients did not turn up was 16.2%.</td>
<td>The study revealed that many of the on-the-day surgery cancellations of elective surgery were potentially avoidable. - A better utilization of operating theatre would be achieved if proper administrative measures are taken. - All involved staff should be punctual to ensure cases are done at planned time</td>
<td>A late cancellation of scheduled operations is a major cause of inefficient use of operating-room time and a waste of resources</td>
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<td>13</td>
<td>Shah, H. &amp; Bourne, T.M. (2010). Factors influencing poor theatre utilization: An objective and subjective comparison. <em>European Journal of Anaesthesiology</em>. 27(47): 20.</td>
<td>Design: Prospective Cross-sectional Methodology: Quantitative research. A 3-month period prospective study to investigate poor theatre start time using objective and subjective methodology.</td>
<td>Population: Patients &amp; staff</td>
<td>- Highlight recurrent issues leading to delays in the theatre starts (using two standards: patient ready to leave surgical admission ward (20 minutes before) and the time the patient should reach the theatre suite (10 minutes before)). - Theatre and ward staff participated in the questionnaire</td>
<td>- Delays issues recorded - Questionnaires</td>
<td>Descriptive analysis</td>
<td>Not addressed</td>
<td></td>
<td>Suggested intervention was to improve patients’ attendance of pre-assessment clinic</td>
<td>Theatre wasted time can be reduced by improved patients’ attendance of pre-assessment clinic</td>
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<td>No.</td>
<td>Source</td>
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<td>Data Collection Tool</td>
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<td>14</td>
<td>Mason, C. (1992). Non-attendance at out-patient clinics: a case study. <em>Journal of Advanced Nursing.</em> 17: 554-560.</td>
<td>Design: Prospective case study. Methodology: Qualitative research (phenomenological) study to explore possible reasons for non-attendance at out-patient clinics and highlight different perceptions held by groups of professionals and defaulters during a 2-month period</td>
<td>Population: Patients &amp; staff Sample type: Non-randomized Representative Sample: Groups of professionals and defaulters Sample size: 11 GPs, 7 doctors, 6 nurses, 5 clerks, and 19 non-attenders.</td>
<td>Open-ended interviews with 11 GPs, 7 doctors, 6 nurses, and 5 clerks to elicit their perceptions of why patient default. 1 week observation at 8 out-patient clinics. Semi-structured interviews with 19 defaulters</td>
<td>- Open-ended interviews - Observation - Semi-structured interviews</td>
<td>Descriptive analysis</td>
<td>Not addressed</td>
<td>Reasons for non-attendance were sought and found to be multifactorial</td>
<td>Other studies mentioned, showed that short interval to appointment enhance attendance, as do postal, telephone reminders and proper cancellation of appointments by patients</td>
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<td>15</td>
<td>Haufler, K. &amp; Harrington, M. (2011). Using nurse-to-patient telephone calls to reduce day-of-surgery cancellations. <em>AORN Journal.</em> 94(1): 19-25.</td>
<td>Design: Prospective Randomised Controlled-Trial Methodology: Quantitative study to decrease the day-of-surgery cancellation by targeting the factors that can be easily affected by low-cost intervention of teaching during a 6-month period</td>
<td>Population: Patients Sample type: Non-randomized Representative Sample: Patients booked for surgery Sample size: 2124 patients</td>
<td>Telephone calls</td>
<td></td>
<td>Statistical analysis</td>
<td>Not addressed</td>
<td>Reasons for cancellations were audited before the study and one reason was added to those after the study which is lost messages from patients to clinic schedulers</td>
<td>Scripting and advance calls by nurses are effective way to communicate to patients the reasons for preoperative restrictions and the consequences of not following them</td>
<td>Communicate important preoperative information to patients and address any questions or concerned reduced daily cancellation rate by 53%</td>
<td>Reducing the number of day-of-surgery cancellations saved an estimated $102,983, increased patient satisfaction scores, and increased the usage of ORs</td>
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</table>
# Appendix 2 – General Orientation Program

## General Orientation Program

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presented by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30 – 09:00 am</td>
<td>Registration</td>
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<tr>
<td>09:00 – 09:15 am</td>
<td>Medical Ethical Issues</td>
<td>XXXXXXXX</td>
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<td>09:15 – 09:45 am</td>
<td>Infection Control</td>
<td>XXXXXXXX</td>
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<tr>
<td>09:45 – 10:00 am</td>
<td>Safety &amp; Security</td>
<td>XXXXXXXX</td>
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<tr>
<td>10:00 – 10:15 am</td>
<td>Personnel Department</td>
<td>XXXXXXXX</td>
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<tr>
<td>10:15 – 10:30 am</td>
<td>Quality Management</td>
<td>XXXXXXXX</td>
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<tr>
<td>10:30 – 10:45 am</td>
<td>IT Department</td>
<td>XXXXXXXX</td>
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<tr>
<td>10:45 – 11:00 am</td>
<td>Signing the completion of the General Orientation Program</td>
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</table>

Kindly note the following:

- Kindly register your name with the coordinator
- Fill in the survey form
- Sign the attendance form
- Take your copy of the Hospital Manuals & brochures

*Thank you for your attendance*
### General Training Program

**Appendix 3 – General Training Program**

<table>
<thead>
<tr>
<th>Period</th>
<th>Department or Unit</th>
<th>Place &amp; Tel. Ext.</th>
<th>Training topics</th>
<th>Training Coordinator</th>
</tr>
</thead>
</table>
| 1 day  | Quality Management | Building 1 Level 4 (Ext. 1474) | - Hospital’s Vision, Mission, and Objectives.  
- Quality Department & teams, Accreditation Canada, and KPIs & ROPs.  
- Quality Magazine.  
- How to open a new patient Medical Record? | XXXX |
| 3 days | Information Technology (IT) | Building 4 Level 3 (Ext. 4326) | - Health Information System (HIS)  
- Electronic Health Records (EHR)  
- Create an email account  
- Hospital’s Website  
- University’s website and electronic services  
- SMS services | XXXX |
| 5 days | Out-patient | Building 1 Level 1 (Ext. 1162 - 1193 - 1243) | - Ophthalmology Clinics  
- ENT clinics  
- Pre-Hospitalisation Clinic | XXXX XXXX XXXX |
| 3 days | Admission appointments | Building 1 Level 2 (Ext. 1061) | - The admission booking for Ophthalmology & ENT patients  
- How to call the patient | XXXX |
| 5 days | Secretaries | Building 1 Level 4 (Ext. 1426) | - How to prepare the daily admission and OR lists  
- Who needs to have a copy? | XXXX |
| 3 days | Admission Office | Building 1 Level 1 (Ext. 1150) | - How to use the admission system?  
- How to distribute the patients to the different wards? | XXXX |
| 3 days | Operating Theatre | Building 1 Level 2 (Ext. 1210) | - Essential information about the OR.  
- How to prepare surgical census? | XXXX |

For more information, please contact the training coordinator (XXXX) at Ext. 1405.

*Thank you*

Office of the Medical Director - 2012
Appendix 4 – Flow Chart of Admission Process

First Visit
- Start
- Ophthalmology Clinic Booking for surgery
- Admission Office for admission appt.
- Health Educator Complete assessment form & other instructions
- Medical Problems
  - Yes Appt. to see Medical specialist
  - No Give Lab requests with instructions to do investigation before date of appt. only for outside Riyadh & Appt. to see Anesthetist
- Appointments desk
- Home

Second Visit
- Start
- Reception desk – Pre-hospitalization clinic
- Check vital signs and register
- Medical Specialist examination
- Give investigations appt. to come and review 2-5 days
- Home

Third Visit
- Start
- Report to Pre-hospitalization clinic to review results/ consultation
- If FIT?
  - Yes Day Case
  - No Admission Case
  - Visit Pre-hosp. clinic ONE DAY prior to admission
  - Health Educator
  - Pharmacy
- Another appt. with the doctor
- Home

Fourth Visit
- If Day Case: day of surgery → Start → Proceed to ward → Follow the ward nurse instructions
- If Admission Case: day of admission → Start → Medical/Anaesthesia Clinic → Admission Office → Ward
Appendix 5 – Redesigned Flow Chart of Admission Process

First Visit

Start

Ophthalmology Clinic Booking for surgery

OR coordinator - Provide patient guidance & preoperative information

Admission Office for admission appt.

Health Educator Complete assessment form & other instructions

Yes Medical Problems

Appt. to see Medical specialist

Give Lab requests with instructions to do investigation before date of appt. only for outside Riyadh & Appt. to see Anesthetist

Appointments desk

Home

Second Visit

Start

Reception desk – Pre-hospitalization clinic

Check vital signs and register

Medical Specialist examination

Give investigations appt. to come and review 2-5 days

Yes

No Home

Yes

Another appt. with the doctor

No

Yes

Day Case

Admission Case

Visit Pre-hosp. clinic ONE DAY prior to admission

Health Educator

Pharmacy

Home

Third Visit

Start

Report to Pre-hospitalization clinic to review results/ consultation

Yes

If FIT?

No

Day Case

Admission Case

Follow the ward nurse instructions

If Day Case: day of surgery

Start

Proceed to ward

If Admission Case: day of admission

Start

Medical/ Anaesthesia Clinic

Admission Office

Ward
Appendix 6 – Day Case Information Booklet

King Saud University
College of Medicine
King Abdulaziz University Hospital
Department of Ophthalmology

معلومات ماقبل العملية الجراحية
Preoperative Information

عمليات اليوم الواحد
Day Case

This booklet will help you to remind about all the needed information. Please bring it with you to the following visits. For more information, please call:
01-478 6100 Ext. 1146
Consultant's name: 

Type of surgery: 

Appointments: 

Anesthesia/ Medical doctor 

طبب التخدير/ الباطنية 

اليوم: _______________ التاريخ: ___/___/___ الدور (__)
Day: __________ Date: __/___/___ Time: ___ Floor (___)

Admission 

زيارة مafilل العملية 

اليوم: _______________ التاريخ: ___/___/___ الدور (__)
Day: __________ Date: __/___/___ Time: ___ Floor (___)

Surgery 

العملية 

اليوم: _______________ التاريخ: ___/___/___ الدور (__)
Day: __________ Date: __/___/___ Time: ___ Floor (___)

Please write here your questions to be asked during your next visits (as a reminder):

-------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------
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Mلاحظة هامة:

في حال عدم تمكنك من الحضور لأي من المواعيد المذكورة أعلاه، يرجى الإتصال على الرقم: 01-478 6100 Ext. 1146
إن إبلاغ المستشفى عن عدم تمكنك من الحضور يعني فرصة لمريض آخر بحاجة منشقة للعملية. ونود إبلاغك بأنه عدم الالتزام بهذا سوف يعرضك لصعوبة في إعادة جدولة عملية.

Always REMEMBER: 
In case of inability to attend any of these appointments, please call:
01-478 6100 Ext. 1146 to give the chance to another patient who really needs the surgery. Failure in doing this will expose you to the difficulty in rescheduling your operations.
1. In the ophthalmology clinic, your Ophthalmologist will schedule you for surgery under local/ general anesthesia. You will be admitted, operated and then discharged on the same day as a “Day Case”.

2. Your Ophthalmologist will explain the procedure for you and he/she will ask you to sign a consent.

3. The nurse in the Ophthalmology clinic will give you Request forms and guide you where to have the necessary diagnostic procedures done. You will also be given a slip for admission.

4. In the admission office (Ground floor), show the slip given to you from the clinic and you will be given a computerized slip for admission.

5. You will be then directed to go to the Health Educator in the pre-hospitalization clinic (2nd floor):
   a. The Health Educator in the pre-hospitalization clinic will give you Request forms for you to do the Laboratory investigations, X-Ray and ECG as instructed by the Medical Doctor. She will also provide you with an appointment for Medical or Anesthesia depending on your case.
   Don’t forget to register your appointment with the receptionist in the appointments desk beside the ophthalmology clinic.
   b. The Health Educator will give you instructions and answer any queries that you may have.

For Children without medical problems:
- Your child will be given Request forms to do the Laboratory investigations a week before the scheduled surgery.
- The anesthesiologist in the pre-hospitalization clinic will examine your child on the day of admission and he may refer your child to the Pediatrician if needed.

For Children with medical problems:
- ب. سوف يقوم الطبيب بالتسجيل الشخصي بالعنبك النماذج اللازمة لعمل التحاليل المخبرية، الأشعثة، وترشيح القلب. سوف يقوم الطبيب بالتسجيل الشخصي أيضا بإعطائك موعد خلال أسبوعين على موقع المختبر، مع طبيب نباتي أو التحاليل حسب حالة وعمل الفحوصات اللازمة.
- لا تنسى تسجيل الموعد من مكتب المواعيد بجوار عيادة العيون.
- سوف يقوم الطبيب الصحي بإعطائك التعليمات والإجابة على جميع استفساراتك.

بالنسبة للأطفال الذين لا يكونون من مشاكل صحية:
- يتم إعطاء نماذج التحاليل ليتم عملها قبل موعد مقبل التنويم بأسبوعين.
- سوف يقوم الطبيب التحاليل في عيادة مقبل التنويم.
- سوف يتبع النتائج، وإذا أحتاج الأمر سيتم تحويله إلى طبيب الأطفال.
6. Your visit to the Anesthetist or Medical doctor: This is an important part of your admission to hospital. If you don’t attend this appointment, your surgery may be cancelled. You must bring with you any medications you are taking in their original packing and your medical report (if any). You must come fasting on the appointment date.

7. If you are taking Aspirin or other medications with similar action like Aspirin, you must stop it before your scheduled surgery as instructed by the doctor.

8. You must follow and use your regular & preoperative medications as instructed by the doctor.

9. You must take a shower at home before coming to the hospital and remove make up for female patients.

10. You must be fasting before coming to the admission as instructed (8 hours for adults - 6 hours for children).

11. Please leave your valuables at home on the day of admission.

12. On admission day, proceed directly to the ward. You will need to be accompanied by (1) companion only. He/she will be asked to wait during the operation and escort you on leaving the hospital on the same day.

For Male patients - 7A ward.

For Female patients - 7B ward.

13. Upon reaching the ward, present the admission papers with you to the nurse.

14. Other instructions will be given to you by the nurse after you are admitted.

15. Your stay at the hospital will be short, no visitors are allowed.
Flow Chart for Ophthalmic Surgery patients (Day Case)

1. **Start**
   - طب العيون والعلاجات
   - Ophthalmology Clinic Booking for surgery
2. **OR coordinator**
   - مكتب الصرح (غير المصارع)
   - Admission Office for admission appt. & Pre-hosp. (Near the elevators)
3. **Health Educator (2nd floor)**
   - تقييم الحالة الصحية والتعليمات وإعطاء موعد مع طبيب البالغ أو التخدير
   - Complete assessment form & other instructions
4. **Appointment desk near the Ophtha clinics**
   - موعد مع طبيب البالغ
   - Appt. to see Medical specialist
   - موعد مع طبيب البالغ (وجوه عيني)
5. **Home**
   - اتخذي إلى المنزل

---

**Yes**

- **Medical Problems**

**No**

- نمطًا للتحليل قبل موعد الترميم
- Give Lab requests with instructions to do investigation before date of app.
- نموذج مع طبيب التخدير
- Appt. to see Anesthetist
Please follow the specified path shown in the flowchart during your coming visits. There might be some changes on this path according to your health status. This information is developed for the purpose of illustration only.
Flow Chart for Ophthalmic Surgery patients (Day Case)

Please follow the specified path shown in the flowchart during your coming visits. There might be some changes on this path according to your health status. This information is developed for the purpose of illustration only.
1. Present the admission papers to the ward nurse in the reception.
2. The nurse will check your papers and will escort you to the room.
3. You will expect the nurse to give you instructions or do the following:
   - Remove your dentures if any.
   - Change your clothes to the operating gown.
   - Shaving of needed.
   - Take vital signs.
   - Dilate your eye.
   - Place an identification band on your wrist.
   - Ask you to go to the bathroom and void.
   - Fix/tie your hair and place a head cover.
4. You will be placed in a stretcher and you will be escorted by the nurse to go to the Operating Room in the second floor.
5. An intravenous fluid will be started on you by the anesthesiologist.
6. The nurse will endorse you to another nurse who will bring you inside the Operating Room in a stretcher.

7. You will be given medications to make your eye numb by the anesthesiologist before the operation will be done by the Ophthalmologist.

8. After the operation, you will expect an eye patch on the operated eye.

9. You will be brought to the Recovery Room where you will be observed for a short while. If everything is okay, you will be brought out to the holding area, where a nurse from the ward will receive you.

10. You will be brought back to the ward in the stretcher where your vital signs will be taken and observed.

11. You will be told by the nurse that you will then be ready to go home.

12. You will be given:

   • An appointment slip when you are supposed to come for follow-up.
   • Medication prescription which you will get in the Pharmacy
   • Discharge instructions that you must strictly follow.

13. سوف تقوم ممرضة الجناح بتسليمك لممرضة العمليات.

14. سوف يقوم طبيب التخدير بوضع علاجات مخدرة للعين قبل أن يبدأ طبيب العيون في العملية.

15. بعد العملية سوف يوضع غطاء على العين.

16. سوف يتم نقلك لغرفة الإبادة حيث تكون تحت الملاحظة لبعض الوقت. إذا أصبح كل شيء على ما يرام سوف يتم نقلك إلى غرفة أخرى لحجز ممرضة الجناح.

17. سوف يتم إعادة نقلك إلى الجناح حيث تقوم ممرضة الجناح بإعداد العادات الحيوية لك وملاحظة وضعك.

18. سوف تبلغ بواسطة الممرضة في الوقت الذي يكون بإمكانك العودة للمنزل.

19. سوف يتم إعطاءك:

   • ورقة موعد المتاحة.
   • وصفات العلاج من الصيدلية.
   • تعليمات الخروج التي يجب إتباعها بدقة.
<table>
<thead>
<tr>
<th>Locations of clinics &amp; wards:</th>
<th>عيادات والأجنحة:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ophtha clinic Level 1</td>
<td>الدور الأرضي عيادة العيون</td>
</tr>
<tr>
<td>Pre-hospitalization Level 2</td>
<td>الدور الثاني عيادة ما قبل التنويم</td>
</tr>
<tr>
<td>X-Ray Level 2</td>
<td>الدور الثاني قسم الأشعة</td>
</tr>
<tr>
<td>Health Educator Level 2</td>
<td>الدور الثاني التدقيق الصحي</td>
</tr>
<tr>
<td>Admission office Level 1</td>
<td>الدور الأرضي مكتب الدخول</td>
</tr>
<tr>
<td>Ward 7A Level 7</td>
<td>جناح 7 أ الدور السابع</td>
</tr>
<tr>
<td>Ward 7B Level 7</td>
<td>جناح 7 ب الدور السابع</td>
</tr>
<tr>
<td>Ward 5A Level 5</td>
<td>جناح 5 أ الدور الخامس</td>
</tr>
<tr>
<td>Ward 5B Level 5</td>
<td>جناح 5 ب الدور الخامس</td>
</tr>
<tr>
<td>In-patient pharmacy Level 0</td>
<td>الدور تحت الأرضي الصيدلية الداخلية</td>
</tr>
</tbody>
</table>

يرجى إتباع اللوحات الإرشادية عند دخولك للمستشفى.

Please follow the signboards when you get into the hospital.
We are interested in your ideas to change or improve the patient’s pathway through the surgical appointment, and planning to use what we learn from you to improve the surgical service at KAUH.

A stamped envelope is attached for you to send your feedback to the concerned department at the day of your surgery (please give the envelope to the ward nurse upon your arrival).

نحن مهتمون برفقة رأيك لِتم تغيير أو تحسن مسار المريض خلال زيارته المختلفة لِما قبل العملية وذلك بهدف تحسين الخدمة المقدمة للمريض الذي يحدد لهم مواعيد لممارسة العيون الجراحية في مستشفى الملك عبدالعزيز الجامعي.

مرفق به ظرف كتب عليه عنوان القسم المعين بأخذ مقتراحكم بعين الاعتبار. يرجى وضع هذه الورقة بالظرف وتسليمها لممرضة الجناح عند حضوركم يوم العملية.
Our MISSION

- To educate and train future healthcare professionals in an innovative learning environment.
- To explore new areas of research and produce significant scientific contribution to the world.
- To provide high quality and compassionate healthcare in the Saudi community.
- To integrate education, research, and healthcare in an inclusive environment.

How did you find our service? We would be happy to hear from you if any negative or positive feedback.

What can be changed to make it easier for people to attend their surgical appointments?
**Appendix 7 – Job description**

<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>Department: Nursing Dept.</th>
<th>Unit: Ophthalmology</th>
<th>Job Description Number: ND-JD-II-001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Title:</td>
<td>OR Coordinator</td>
<td>Issue Date: Nov 2011</td>
<td>Prepared/Revised by: Date: Feb. 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revision Date: Feb 2012</td>
<td>Effective Date: Feb 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Date: XX XXXX</td>
<td>Due for Revision on: Feb 2015</td>
</tr>
<tr>
<td>Reviewed by:</td>
<td>Quality Management Department</td>
<td>Date: Authorized by: Date: Authorized by: Date:</td>
<td></td>
</tr>
<tr>
<td>Authorized by:</td>
<td>Department Head</td>
<td>Authorized by: Date:</td>
<td>Authorized by: Date:</td>
</tr>
<tr>
<td>Authorized by:</td>
<td>Medical Director</td>
<td>Date:</td>
<td>Date:</td>
</tr>
<tr>
<td>Vice Dean for Quality &amp; Development Affairs</td>
<td>Vice Dean University Hospital Affairs</td>
<td>Date:</td>
<td>Date:</td>
</tr>
<tr>
<td>Authorized by:</td>
<td>Approved by: Date:</td>
<td>Approved by: Date:</td>
<td></td>
</tr>
<tr>
<td>Authorized by:</td>
<td>Approved by: Date:</td>
<td>Approved by: Date:</td>
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<td>Authorized by:</td>
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<td>Date:</td>
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</tr>
<tr>
<td>Authorized by:</td>
<td>Date:</td>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>

### 1.0 Organizational Relationship:

1.1 Reporting to: Head Nurse in the Ophthalmology Clinics and Operating Room, ADON Specialty Clinics/O.R. and DON

1.2 Responsible for: Coordination of the OR appointments and to communicate with patients, scheduling and re-scheduling appointments for clinic visits and maintaining standby patient list.

1.3 Liaises with: Head Nurse: Ophthalmology Clinics/Surgeons/Operating Room and Health Educators in the Pre-Hospitalization Clinic.

### 2.0 Job Summary:

2.1 To assume responsibilities regarding expediting the OR appointments, scheduling surgical patients appointments appropriately & preparing standby lists.

### 3.0 Duties & Responsibilities:

3.1 Daily Booking of the patients for OR and keep updated list of patients with contact information.

3.2 Coordinate the OR Appointments and direct the patients regarding the admission procedures and remind the patients of their appointment. If a patient is unable to keep the appointment, the OR Coordinator is to replace him /her with another patient from the waiting list at the appropriate time.

3.3 Explain to the patient the process of admission and provide them the instructions with admission flow chart after ensuring that they have all the admission papers.

3.4 Communicate with the patient to confirm the admission appointment.

3.5 Maintain waiting lists for replacement of patients who will not be fit or able to report for surgery.
3.6 Substitute and replace from the waiting list, with a suitable patient who is appropriate for the procedure, in coordination with the surgeon.

3.7 Coordinate with surgeons to schedule new appointments for the cancelled patients.

3.8 Call patients in case of cancellation of appointments upon approval and according to the official hospital procedures.

3.9 Maintain records and correspondence files.

3.10 Assist in data collection for patients’ statistics.

3.11 Participate in the hospital committees as assigned

3.12 Participate in the hospital improvement plans related to quality.

3.13 Maintain confidentiality of patients’ information.

4.0 **Education/Licensure:**

4.1 Diploma of Hospital Administration/ Diploma in Secretary or related study

5.0 **Professional Experience:**

5.1 Experience in a similar job or experience as a medical secretary at least for 2 years.

6.0 **Specialized Knowledge:**

6.1 Statistical precision

6.2 Good skills in typing

6.3 Basic Knowledge of Medical terminology

6.4 Ability to communicate efficiently with patients of all ages.

6.5 Knowledge of Arabic and English.

6.6 Demonstrate effective interpersonal skills

6.7 Demonstrate leadership ability, as well as ability to solve problem and make decisions effectively.

7.0 **Condition:**

7.1 Assignment will be rotated between Ophthalmology & OR designated areas as scheduled by Nursing Department.

7.2 This job description is subject to periodic review and may be changed at any time in consultation with the employee.

Signature of Employee: ________________________________
Appendix 8 – Detailed training guidelines

**Guidelines for the Ophthalmology OR coordinator:**

The OR coordinator is playing a key role in:
1. Communicating the important preoperative information to the patients (patient guidance).
2. Reconfirming surgical appointments (telephone & SMS reminders).
3. Liaising with the consultants about the cancelled patients and rescheduling appointments.
4. Data management.

1. **Patient guidance:**

Patients in whom an ophthalmic surgery is requested will be directed by the clinic nurse to the OR coordinator whose role is:

a) He/she will confirm the patient’s contact details and provide his/her telephone number so that further information or assistance could easily be obtained.
b) Guide the patient to the places he/she will visit during the admission pathway by showing him/her pictures of those places in a form of pictures book.
c) Inform the patient about the importance of calling the OR coordinator if he/she will not be able to attend.
d) Provide each patient with supplementary written information in a form of booklet (see appendix) and tell him/her "If you do not attend this appointment your surgery may be cancelled”.
e) Patients who are booked for surgeries from the ER during the working hours will be referred to the OR coordinator for guidance but, if after working hours, ER nurses will get the patient contact details and provide him/her with the supplementary written information booklet.

2. **Telephone reminders:**

a) The OR coordinator will call the patient to reconfirm the anesthesia, admission and surgery appointments. If no answer, a text message will be sent as a reminder with providing a telephone number to call the hospital and confirm attendance. If patient will not be able to come, he/she will inform the surgeon to replace the patient from the standby list where he/she will also make sure that the replaced patient is ready.
b) Patients will be informed if any cancellation or rebooking is needed for any hospital related reason.

3. **Liaise with surgeons about the cancelled patients and rescheduling appointments:**

The Ophthalmology Department has 16 surgeons. Each surgeon has his/her own admission and surgical day. The OR coordinator is asked to provide each surgeon with a list of confirmed patients for surgeries and this list has to be provided during the clinic prior to the surgical day of each surgeon. He/she will be able to prepare this list by performing the telephone reminders task.
Following is an example:

<table>
<thead>
<tr>
<th>SN</th>
<th>Patient Name</th>
<th>Patient No.</th>
<th>Age</th>
<th>Ward</th>
<th>Diagnosis/Procedure</th>
<th>Anes.</th>
<th>Confirmed</th>
<th>No answer</th>
<th>Wrong contact details</th>
<th>Cancelled</th>
<th>Postpone</th>
<th>For rescheduling</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>XXXX</td>
<td>00-00-00</td>
<td>00</td>
<td>7A</td>
<td>XXXX</td>
<td>LA</td>
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<td></td>
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<td>XXXX</td>
<td>00-00-00</td>
<td>00</td>
<td>7B</td>
<td>XXXX</td>
<td>GA</td>
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<td></td>
</tr>
<tr>
<td>3</td>
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<td>00-00-00</td>
<td>00</td>
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<td>00</td>
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<td>XXXX</td>
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<td></td>
</tr>
</tbody>
</table>

The surgeon will replace the patients who are not being able to attend for any reason as follows:

**Option 1:**
Patients will be replaced from the previously ready patients. In this case, the OR coordinator will need to call the previously booked patients to inform them about the rescheduling and confirm their attendance. If they are not able to attend, he/she will need to inform the surgeon again to find other patients.

**Option 2:**
A ready patient from the clinic will be booked. This patient will be guided as mentioned in the patient guidance task.

4. **Data management:**

The OR coordinator has to make sure that all data about the patients booked for surgeries is managed (paper filing and electronic data entry). This needs the following:

a) Daily update of the OR schedule for each surgeon (electronic data entry).
b) Daily update of the patients' contact details he/she obtained from the guided patients (paper filing and electronic data entry). Receive the patients contact details which were given in the ER and enter their data into the electronic database. (Note: These contact details will be also provided on a daily basis to the Patient Relations Department to be updated in the HIS).
c) Receive a daily list from the Operating Theatre which shows the attendance of each patient and enter them in the electronic database of each surgeon. This helps in creating censuses of NO-SHOWs, CANCELLATIONS, and POSTPONEMENT.
d) Obtain daily admission and OR lists from the secretaries section and make sure no missing patients in the OR coordinator's electronic database.

e) Receive a daily list of pre-hospitalization appointments from the Health Educator and perform the data entry to the electronic database. This helps in having full details about all appointments given to the patients when calling for attendance reconfirmation.

f) Receive a daily list of patients results (normal, postpone, cancelled, and no-show) from the pre-hospitalization clinic and enter them to the electronic database. This saves the OR coordinator’s time not to call patients who are not fit for surgeries and also prevents miscommunication between the hospital and the patient.
Appendix 9 – Patient’s data form

<table>
<thead>
<tr>
<th>رقم السجل الطبي</th>
<th>إسم المريض</th>
<th>رقم هاتف المنزل</th>
</tr>
</thead>
<tbody>
<tr>
<td>File no.</td>
<td>Patient Name</td>
<td>Tel. no.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

التاريخ: ..............................................

Date: ...........................................................

O Day Case

O Admission

Doctor’s Name: ...........................................................

Diagnosis & Sx: ...........................................................

Admission appt.: ...........................................................
Appendix 10 – Pictures book
# Appendix 11 – Daily list of pre-hospitalisation clinic appointments

Day: ............... Date: ...../..../.........

<table>
<thead>
<tr>
<th>SN</th>
<th>Patient Name</th>
<th>File Number</th>
<th>Appointment Date</th>
<th>Appointment type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Anesthesia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>☐ Medical</td>
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<td></td>
<td>☐ Anesthesia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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**Instructions:**
The form was created to be used for the appointments given to the patients in order for the OR Coordinator to reconfirm the Pre-Hospitalization clinic appointments by calling the patients.

*Please send to OPTHALMOLOGY OR COORDINATOR (Ext. 1146)*
### Appendix 12 – Daily list of investigations results

Day: ..................  Date: ...../....../.........

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**Instructions:**
This form was created to be used by the Pre-Hospitalization Clinic. It will be sent to the OR Coordinator on a daily basis to make it clear about the results of patients and create an opportunity to rebook other patients from the waiting lists. This will also make the job easier for the surgeon to select the patients who are fit for surgery if rebooking is needed.

*Please send to OPHTHALMOLOGY OR COORDINATOR (Ext. 1146)*
Appendix 13 – Leader’s performance evaluation

- **The ability to communicate the change vision to the stakeholders**

- **Communication skills**

- **Decision making**

- **Problems solving**

- **Time plan management**

- **The ability to facilitate the required infrastructure and resources**

- **The passion for achieving the required impact on the organisation**

- **Functionality**

- **Availability and accessibility**
Appendix 14 – Patients’ feedback about the preoperative experience

We are interested in your ideas to change or improve the patient's pathway through the surgical appointment, and planning to use what we learn from you to improve the surgical service. A stamped envelope is attached for you to send your feedback to the concerned department at the day of your surgery (please give the envelope to the ward nurse upon your arrival).

Question 1: How did you find our service? We would be happy to hear from you if any negative or positive feedback.

Answers:

Patient 1. The appointments are accurate.
Patient 2. The number of physicians has increased.
Patient 3. Excellent service but the appointment is my main problem for example, I am waiting to have a call or SMS about the appointment since the month of 6, 2011 which made me wait a lot.
Patient 4. I would like to thank the management, physicians and nurses for providing excellent health services.
Patient 5. The answer is not related to the question!
Patient 6. High quality service.
Patient 7. The health service is excellent but we have a problem with the appointment scheduling
Patient 8. Excellent, good patient communication with high quality services. The only problem is the waiting time.
Patient 9. The answer is not related to the question!
Patient 11. I touched the hospital’s concern about the patient when the health providers were trying to get the most accurate investigations and diagnosis for me. It was clear that the physicians are sharing consultations before getting the decision to perform the surgery.

Question 2: What can be changed to make it easier for people to attend their surgical appointments?

Answers:

Patient 1. The current situation is excellent.
Patient 2. None
Patient 3. The hospital has to consider that losing vision is a critical problem for the patient as it affects his daily and work life.
Patient 4. The answer is not related to the question!
Patient 5. The answer is not related to the question!
Patient 6. None
Patient 7. None
Patient 8. None
Patient 9. Increase the number of health providers to solve the problem of long waiting times.
Patient 10. I suggest having a better appointment scheduling and waiting time management because the waiting list is too long.