Final Project Milestone One

Analysis of Organization: Westlake Research Hospital

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Table of Contents

[Analysis of Organization 3](#_Toc37847201)

[Problem/Challenge 3](#_Toc37847202)

[Business Requirements 4](#_Toc37847203)

[Current System Limitations 5](#_Toc37847204)

[Department and Operation Impact 8](#_Toc37847205)

[References 10](#_Toc37847206)

# Analysis of Organization

Westlake Research Hospital is planning to conduct a study of a new anti-depressant drug. To test the drug, they are conducting a Double-Blind test, which is considered the gold standard for testing medication, especially psychiatric medication (Fish, 2010). The test is expected to take about 18 months and will involve 20 doctors and 400 patients (Conger, 2014, p. 18). The purpose of the double-blind test is to reduce the potential for unintentional bias relating to the “placebo effect (taking a pill) and the treatment effect (the medication in the pill)” (Fish, 2010).

When conducting a study of this magnitude, it is essential to begin by identifying the most efficient and accurate way to conduct it. This document aims to discuss the existing processes used by the physicians involved in the double-blind study. This document will begin by discussing the problems and challenges presented by Westlake Research Hospital. After identifying the problems and challenges, the business requirements, the limitations of the current system, and the department/operational impact of the current processes will be identified.

## Problem/Challenge

A Double-Blind study is used to prevent bias due to demand characteristics and the placebo effect (Cherry, 2020). The double-blind study works by hiding the treatment received by the patient from both the participants and the experimenters (Cherry, 2020). For the hospital to track the study, they will need a database (Conger, 2014, p. 18). The database will be used to store information for each patient from two forms templates as well as specific information relating to the study.

The database must ensure that “neither the doctors nor the patients will know who is getting which drug and that only two test supervisors will know who is getting what” (Conger, 2014, p. 18). The database will need to “track patients’ information from their first screening through each of their interviews” (Conger, 2014, p. 18). One of the critical challenges associated with this problem is the complexity of the forms and the type of information being gathered. The other key challenge is the difficulty in gathering the data needed to build the database due to privacy rules preventing the shadowing of doctors and researchers (Conger, 2014, p. 41).

## Business Requirements

A business requirement “defines the reason behind a project and what objectives of the performing organization will be fulfilled by undertaking the project” (The Business Analyst, 2018). The following list contains the business requirements for Westlake Research Hospital’s Double-Blind Study of the new anti-depressant drug:

* Ability to track "patients’ information from their first screening through each of their interviews” (Conger, 2014, p. 18).
* Ability to document “whether the patient seems more depressed or less, what their appetite is like, are they sleeping, and what kind of activities they are engaged in” (Conger, 2014, p. 18).
* Ability to document “specific physical side effects such as rashes, high blood pressure, irregular heart rhythms, and liver or kidney problems” (Conger, 2014, p. 18).
* Ability to isolate data so that doctors are “able to see their own patient’s information, but not that of any other doctor’s patients” (Conger, 2014, p. 18).
* The ability for doctors to "enter blood pressures, blood test results, the depression indicators, their own notes, and so on for each session” (Conger, 2014, p. 18).
* Ability to allow patients to “see their own medical profile, the doctor’s notes, and nothing else” (Conger, 2014, p. 18).
* Ability to allow only the researchers “to see everything: all patient information, all doctors’ notes, and which drug each patient is being given” (Conger, 2014, p. 18).
* Ability to harden the system against external intrusion attempts (Conger, 2014, p. 18).
* Ability to capture data from various forms, including the initial medical history form and the patient visit form.
* Ability to add conditional logic to specific fields to ensure a field is required if the specified condition is met.

## Current System Limitations

There is no current system in place for the Double-Blind study; however, based on the Job Shadow Report conducted with Dr. Lewis, there are existing processes in place that present some glaring flaws which should be addressed. To better understand the flaws associated with the existing process, we first need to understand the steps in the process. The following is a breakdown of the steps in the existing process for a typical patient visit:

1. The secretary sends an email with a table of the patients and times of the appointments.
2. The doctor prints out the list
3. The doctor goes to his cabinet to pull out the files of the individual patients for review.
4. The doctor makes some notes on a notepad for each patient.

Patient Arrives

1. The nurse takes the patient’s blood pressure, heart rate, and weight.
2. The doctor greets them and asks how they are doing.
3. The doctor notes any complaints or signs of deepening depression
4. The doctor begins going through the parts of the Patient Visitation Form.
5. The doctor reviews the vitals taken by the nurse
6. The doctor asks the patient about any dramatic changes noticed in the vitals
7. The doctor asks the patent about their depression
8. The doctor records notes in his notebook as the patient talks

Patient Leaves

1. The doctor writes the visit summary
2. The doctor makes a recommendation to keep the patent on or drop the patient from the study

(Conger, 2014, p. 43)

The Job shadow report details problems not covered by the steps above but of equal importance that must be addressed. The two problems identified in the Job Shadow Report for the Westlake Hospital Double-Blind Study include the failure to use the exact words from the form and failure to follow the form in order (Conger, 2014, p. 43).

To fully understand the limitations of this current process as they relate to the Double-Blind study, we must evaluate the key requirements outlined in the previous section. After evaluating the key requirements, we must identify potential problems or shortfalls the current system may have regarding its ability to meet said key requirements.

Based on the requirements outlined secrecy of specific aspects, the accuracy of information gathered, the symmetry between doctors, and organization of information to allow for review are the most important aspects of the study. The following is a list of shortfalls in the current process that could compromise any one of the four (4) aforementioned aspects:

* Increased risk of data leak due to multiple people interacting with the patient in each visit, including the secretary, nurse, and doctor.
* The current process offers no ability to schedule patient appointments online.
* Potential for transcription errors due to the nurse being responsible for taking the vitals.
* Potential for transcription errors due to the doctor failing to input the information into the system as it is discovered.
* Potential for different interpretations of questions on forms due to failure to ask the questions as presented on the form.
* Inability to concatenate all information from all doctors in an organized manner for computer analytics due to the data being located on paper and not stored digitally.
* The potential for misplaced and lost data is significantly increased due to the current process's use of paper and failure to pack up the information digitally.
* Patients lack the ability to conveniently view their medical information, requiring patients to come into the office to pick up paper copies may impact the level of participation and involvement of the patients.
* Tracking the study and reviewing the results will be very time consuming and cumbersome due to the high number of doctors and the number of paper documents that the current system would produce.
* Increased risk of unauthorized data exposure due to the massive amount of physical documents and increased difficulty associated with securing them.
* Lack of clear cut procedures for deciding whether a patient should be removed from the study.

## Department and Operation Impact

Looking at the list of shortfalls in the previous section, it becomes evident that the current system will present some significant challenges for departments and their operations. The following a list of the impact that the challenges of the current system will have on departments and operations:

* Dependence on staff for appointment scheduling increases the risk of miscommunications between doctors and staff, which could lead to negative consequences impacting the schedule for the Double-Blind Study.
* The current system's use of paper documents will increase the workload of doctors as they will need to spend significantly more time locating the files associated with patients. This will decrease the number of patients the doctor can see each day.
* The current system does not offer a way for patients to view their records and doctor notes. This missing capability could lead to the patient's inability to follow doctor instructions due to a misunderstanding at the visit or simply forgetting what the doctor said.
* The doctor will need to spend additional time reviewing the patient files; given the paper format, there is potential for lost information due to illegible writing or lost documents. To minimize these risk doctors will need to spend additional time ensuring there handwriting is clear and that documents are copied and securely stored to minimize the potential for loss.
* The staff will need to ensure each document in the file is accounted for; this will increase the workload for the staff, require additional checklist forms, and decrease the number of patients that can be seen on any given day.
* The current systems vagueness regarding the criteria for dropping a patient from the study creates the potential for skewed results as each doctor’s criteria for removing a person from the study may be different.

# References

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