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Factors Contributing to Increased Patient Waiting Time at Out Patient Department of Lady Ridgeway Hospital for Children in Sri Lanka and Strategies to Minimize the Waiting Time

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ABSTRACT

Long waiting time is considered a major issue that affects the performance of healthcare centers. Out Patient Department (OPD) of Lady Ridgeway Hospital (LRH) has lengthy queues at the OPD during the daytime leading to increased waiting time. The objective of this case study was to find the factors leading to increased waiting time and find agreed-upon strategies to minimize it. The increased daily surge of patients, lack of automation, inadequate consultation rooms and doctors, and insufficient laboratory investigation facilities were a few of the major attributing factors for increased waiting time. The factors were prioritized using the nominal group technique and agreed upon strategies were developed to reduce the waiting time with the participation of the health care staff of the LRH.

Keywords: patient waiting time; outpatient department; lady ridgeway hospital for children

INTRODUCTION

Out Patient Department (OPD) is an important section of a hospital for patients who are seeking care for various health care needs. An efficient OPD of a hospital could reduce a large number of nonessential patient admissions and curtail a considerable portion of health care cost incurred for such admissions. Further, OPD being the primary contact point of provider-seeker it makes the first impression in the mindset of care seekers. Among the number of indicators designed to measure the performance of an OPD, patient waiting time (WT) considered by many countries as a key indicator [1].

OPD waiting time defines the length of time from when an individual enters the OPD will have to stay in the premises for seeking care excluding the time spent for the consultation, treatment or procedures. Hence the OPD waiting time reflects the time spent in the queues and time spent on the logistical requirements including the registration processes [2].

Collecting data on OPD waiting time is challenging as most of the patients are often not consistent with filling up questionnaires or take part in study interviews. Therefore, apart from the limited data collected directly from patients most of the hospitals of developed countries derive data from computerized systems used for patient management [3]. Further, the logistics, management of waiting area, scheduled appointment schemes, and triage systems have been identified as areas need improvement to reduce the patient waiting time in congested OPD settings [4].

LADY RIDGEWAY HOSPITAL FOR CHILDREN

Lady Ridgeway Hospital for children (LRH) is the largest hospital for children in Sri Lanka. As the apex referral hospital for children in the country OPD of LRH serves patients all over the country. The number of patients visiting OPD is increasing over the years due to the reasons such as well reputation of the hospital, the increased number of child dengue fever cases, and the open hospital access principle.

The outpatient department (OPD) and the accident services department of this hospital is open 24 hours a day for 365 days. OPD clinics conducted by the relevant consultants of inpatient units and visiting consultants of the OPD maintain a follow up link with patients discharged from their units. There is also an emergency treatment unit, diarrhea unit and immunization clinic which operate in the OPD to improve the quality of care. Description of the number of patients treated at OPD in 2018 shown in the following table.

TABLE 1: Number of patients treated at OPD in 2018

No	Description	No of Patients
1	No of First Visits to OPD	435616
2	No of Subsequent Visits to OPD	19728
3	No of Emergency Patients (Ward Admissions)	81587
4	Emergency Room (PCU)	50830
5	OPD Visits (Accident Service)	49311

Source: Planning unit of LRH

LRH OPD is a double-loaded single corridor service center. OPD provides a variety of services free of charge at the point of care starting from medical consultation, laboratory investigations, ECG, minor procedure, and pharmacy services. OPD is managed by Senior Medical Officer and cadre comprise 32 medical officers, five resident and visiting pediatricians, 38 nursing officers and a large variety of supporting staff including paramedics, clerks and health assistants. All patients are strictly registered through the Preliminary Care Services (PCU) only.

All first visit patients that come to the registration desk are categorized by a nurse into five categories in the triage area one as follows,

1) Green – patients with general illnesses
2) Red – urgent patients
3) Dark blue – children 3 months & below
4) Light blue – staff patients
5) Orange – other

After categorization (basic triage) an electronically printed token is given to the patient. Then at the same counter, an OPD form is attached to the token and patients are directed to the OPD triage area two for further categorization. Well experienced nurses in triage area two are assessing the patients in detail and are again categorized as follows depending upon the severity of the disease.

1) Red – emergency cases – sending to room 17 for immediate resuscitation
2) Yellow – priority cases – sending to room 17 for Pediatric Early Warning Score
3) Green – non urgent – sending to OPD/clinic consultations

When it is difficult to triage patients by nurses, the patients are immediately sending to the PCU review room which comprises two doctors and a pediatrician. At the PCU review room patents are further assessed by doctors and categorize as per above triage.

Second visit patients are directed to the second visit counter to find their past prescription reports and proceeding for consultations.

After the doctor consultation some patients need to undergo laboratory tests. Hence, those patients are sending to OPD laboratory where it has two automated hematology analyzers. Full blood time, erythrocyte sedimentation rate, urine full report, stool full report, and Clotting Time are performed at OPD and reports were issued in a well-organized manner almost within half an hour. But a significant waiting time is added to patients those who needed biochemistry tests. Such patients have to go to the main hospital laboratory and it might take another two to four hours depending on the workload. After receiving all reports patients are returning back to the OPD doctor [5]. Following the interpretation of reports of the patient, the doctor will resort to one of the following alternatives,

1) To discharge patient with medicines
2) To admit patient for inward care
3) Referring patient to resident pediatrician

Those who discharged with medicines are directed to the outdoor pharmacy where another 10 to 50 minutes are taken drugs to be dispensed.

OBJECTIVE OF THE CASE STUDY

To analyze the factors leading to increased waiting time at Out Patient Department

METHODOLOGY

1) Key informant interviews (KIIs) with OPD staff and guardians of patients
2) Direct observation
3) Review of secondary data

ISSUES IDENTIFIED BY KIIS IN OUT PATIENT DEPARTMENT

Twenty KIIs were held with guardians of patients for eight days. Further, six KIIs were held with the healthcare staff of the OPD. Using the above methods eight issues leading to increased waiting time were identified. They are;

- Increased daily surge of patients
- The OPD does not have a computerized system
- Registration counters are not adequate
- Second visit patient have to go to two counters
- Lack of uniflow direction for patient movement
- Lack of adequate consultation rooms in OPD
- Inadequate number of doctors available during a work shift
- True triage of patients is not taking place
- Intermittent closure of some of outdoor dispensing counters
- Lack of regular supervision by hospital managers

OBSERVATION OF PATIENT MOVEMENT AT OPD

Movements of patients were observed by registrars daily to map the patient flow chart and identify the bottlenecks of the patient waiting time [6].

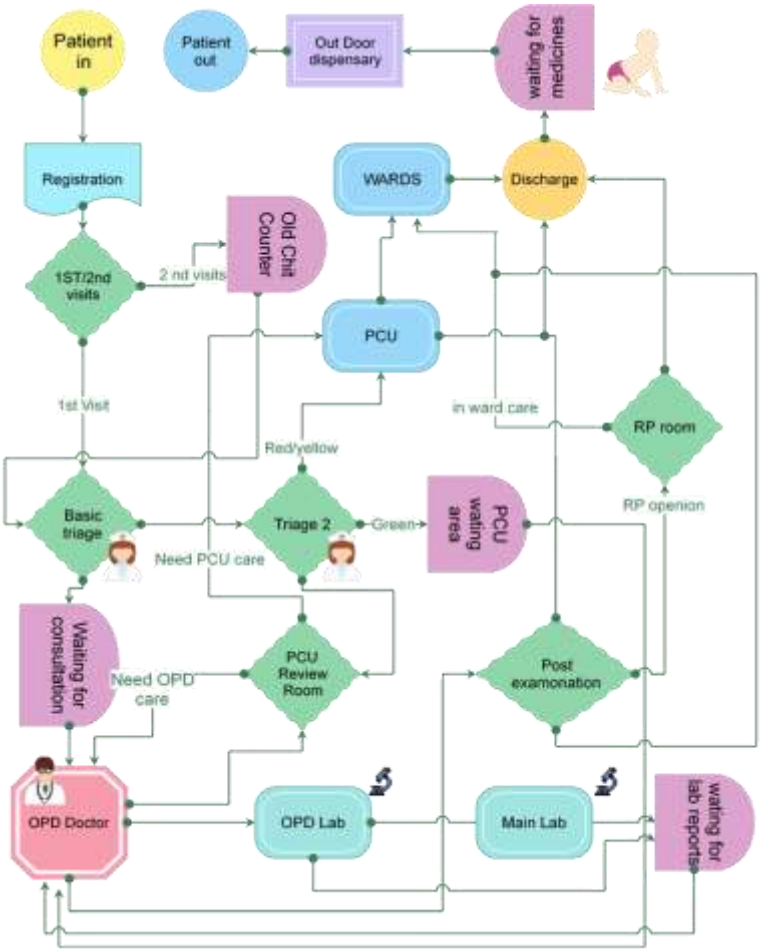

FIGURE 1: Patient flow chart of the OPD

The floor chart of the hospital (Figure 1) shows five main delays contributing for increased OPD waiting time.

1) Delay in searching for old OPD chits
2) Delay in seeking PCU care
3) Delay due to waiting to see OPD doctor
4) Delay due to waiting for laboratory reports
5) Delay due to waiting at outdoor dispensary to get prescribed medicines

PROBLEM PRIORITIZATION

The nominal group technique was used to prioritize the issues identified. Three registrars in medical administration, Medical Officer Planning and Quality participated in prioritizing issues and few factors such as magnitude, impact and feasibility were considered as prioritizing criteria [7].

TABLE 2: Nominal group technique

	Problems Identified	Marks given out of 10							Total
		Technical Feasibility	Administrative Feasibility	Financial Feasibility	Practical possibility	Impact	Time factor	Acceptance	
1	Increased daily surge of patients								
2	The OPD does not have a computerized system								
3	Registration counters are not adequate								
4	Second visit patient have to do								
5	Lack of uniflow direction								
6	Lack of adequate consultation								
7	Inadequate number of doctors								
8	True triage of patients is not								
9	Intermittent closure of some								
10	Lack of regular supervision by hospital managers								

Increased daily surge/influx of patients at the OPD received the highest score out of all. Then another round of KIIs was carried out to find out the root causes of why patients are directly seeking LRH services bypassing secondary care hospitals. At least five questions were asked in a Why-Why manner to each guardian of patients.

SUMMARY OF THE KIIS IS LISTED BELOW

Most guardians mentioned following factors as reasons for seeking LRH care.

1) More confidence on treatment that patients receive from LRH over the other hospitals
2) Availability of all kind of laboratory investigations at the hospital
3) Availability of specialist consultation at the OPD
4) Availability of all most all medicines at the OPD dispensary

Considering the healthcare institutional open access principle of Sri Lanka and above root causes it was decided to develop strategies for better management of daily patient surge rather than trying to reduce it. Developing strategic ideas were performed using Round Robin Brainstorming with the participation of Deputy Director, Medical Officer planning, Medical Officer quality, and Chief Nursing Officer [8].

STRATEGY 1

Automation of OPD procedures

Number of servicing counters cannot be increased along with the increasing number of patients due to inadequate space of the OPD and healthcare human resources. Therefore, many hospitals use queuing theory to increase the efficiency of the service provider. OPD automation considered a part of the same theory. Many OPDs at the main hospitals in Sri Lanka have been automated. Further, automation has been identified as a method for reducing steps of the OPD procedures, a solution for illegible handwriting, and prescription errors. Thus, automation can reduce waiting time on the registration desk, time taken for searching of old prescriptions, and time taken at outdoor dispensary due to erroneous and illegible prescriptions [9].

STRATEGY 2

Improvement of consumer information

Many hospitals across the world and some hospitals in Sri Lanka have launched own hospital websites. These websites are using to provide necessary information on OPD services, referrals, appointment protocols, preparing for an outpatient appointment, and what to expect upon arrival at an outpatient service.

Provision of information reduces the overlapping steps at the OPD and reduce waiting time. Further, lack of essential consumer information in OPD such as wayfinding could lead patients under the stress. Such patients attending an OPD appointment may susceptible to information overload and have difficulties processing information. Therefore, it is much important that basic information is displayed in simple, clear, consistent, logical, and as straightforward as possible. These digital screens can be used as signages and way finders [10].

STRATEGY 3

Amenities upgrade

Small design modifications and improvements of the system can have a vast positive impact on the patients' OPD journey. Special amenity upgrade is essential for reducing patient waiting time for a national health care center like LRH. Discussions with Medical Laboratory Technicians revealed shifting a biochemistry analyzer from the main laboratory to the OPD laboratory is possible if hospital management is keen on reducing OPD waiting time. This change can reduce the waiting time of patients requiring special investigations from two hours to 30 minutes.

STRATEGY 4

True patient triage

Assessing patients at two triage points increase the steps of OPD procedures. Triage point one at the registration counter does not assess the vital parameters of the patient and it is a subjective triage. This subjective assessment may lead to triage errors due to less information provided by patients and inadequate medical knowledge of nurses. Hence the triage area one is waste of time and a bad experience for patients. Therefore, it is important to amalgamate these two triage areas into one true triage area.

STRATEGY 5

Rearrangement of outdoor pharmacy

There are 10 dispensing counters at the outdoor pharmacy and it is located about 200 meters away from the OPD building. Therefore, prescription errors and illegible prescriptions send patients back to the consultation room. Further, it was noticed that the functionality of dispensing counters has been limited to five most of the days due to leaves taken by the staff. Increased supervision of the staff of the dispensary needs to improve the situation of the dispensary. The other solutions will be the automation of OPD and the establishment of pharmacies within the relevant OPD section. At present, such separate pharmacies are functioning at the skin and eye clinics.

STRATEGY 6

Enhance patient experience through consumer research and audit

In addition to the availability of best doctors and equipment, surveys and audits are necessary to discover better treating models and protocols to reduce the OPD waiting time at LRH.

CONCLUSIONS AND RECOMMENDATIONS

Reduction of OPD waiting time of LRH can be achieved by many means such as increasing registering counters, consultation rooms, healthcare human resource, splitting the OPD, and increasing the physical facilities. However, those mentioned solutions are not always implementable due to various physical and financial constraints. Therefore, the most practical and cost-effective method will be the improvement of efficiency at various process levels of OPD. Queuing theory, consumer information upgrade, enhancement of patient experience through research may consider as efficiency improvement strategies. However, as an apex center of treating for children, it cannot always be focus only on the cost-effective measures when bottlenecks become critical to resolve in reducing the OPD waiting time.

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