PATIENTS' WAITING TIME: INDICES FOR MEASURING HOSPITAL EFFECTIVENESS

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ABSTRACT

The study investigates patients' waiting time; indices for measuring hospital's effectiveness. This study aimed at determining the causes of delay in obtaining health facility service(s), to identify the effects of waiting time, to suggest ways of checking and controlling the effects. Findings from this study confirms that patients will have to wait longer on the queues before seeing their providers, as long as the imbalance in the doctor –patient ratio is not addressed, the commonest reason adduced by our respondents for the long waiting time was, few doctors to attend to the large number of patients on the queue. This is a common finding in most health care centres across Nigeria due to the shortage of medical officers and other health care providers (Thatcher, 2005). The study concluded that majority of the patients were dissatisfied with services offered and the major cause of dissatisfaction was the long waiting time. There is the need for health care facilities and hospital administrators to address gaps in human resources, logistics and other internal procedures aimed at reducing waiting times and thus ensuring an effective health care delivery system in the hospital.

INTRODUCTION

Hospital performance measurement offers policy makers major opportunity to secure healthcare system improvement and accountability. It helps to improve the quality of decisions made by all actors within the hospital, including patients, practitioners, managers, government at all levels , insures and other payers it is of major significance, particularly in the current economic climate to manage health resources prudently. Measurement is central to the concept of quality improvement; it provides a means to define what hospitals actually do, and to compare that with original targets in order to identify opportunity for improvement.

Waiting list is a list of patients to be admitted to the hospital but for which beds are not readily available, they are therefore invited later when beds are vacant, due patients discharged or statement of known demand that quantifies the number of patients waiting for assessment or treatment. The waiting list is a formal record of patients identified as needing non-emergency appointment to a hospital for assessment or treatment. It is used to progress the appropriate procedures of review, selection and admission to ensure that none of those patients become lost or inadvertently overlooked. This can be analysed to provide vital information on the use of, and need for, hospital resources. Waiting lists contain patients of different categories and at different stages in the care process. To facilitate both the clinical and administrative management of the waiting lists, they could be sub-divided into a limited number of smaller lists. They also can help the regular review and assessment of patients awaiting admission, and they simplify the extraction of management information and statistical data for hospital and clinical managers (Bergen mar. et al., 2006). Osundina (2005) assert that demand for enquiry on waiting lists are centralised, the true picture of demands on beds are known, and informed the medical staff committee requiring admissions in each sections of the hospital.

Waiting time is an index used to assess patient satisfaction, managerial effectiveness and equity in providing healthcare to healthcare consumers. It is also considered a measurable parameter for checking the effectiency of the hospital department and its professionals for improved service delivery. (World Health Organisation,1994) Patients' waiting time has been defined as "the length of time from when the patient entered the outpatient clinic to the time the patient actually leaves the OutPatient Department". Whether it's a time used for registration of patient, routine doctor's appointment, emergency room treatment, laboratory/diagnostic test, procedures, receiving the results of various tests, waiting happens to just about everyone seeking medical care. It's often one of the most frustrating parts about healthcare delivery system. Waiting time for elective care has been considered a serious problem in many health care systems since it acts as a barrier to efficient patient flows. Outpatient Departments is considered as the window to hospital services and a patient's impression of the hospital begins at the Outpatient Department. This impression often influences the patient's sensitivity to the hospital and therefore it is essential to ensure that Outpatient Department services provide an excellent experience for customers. Clinical priority should form the basis for the selection of patients

for admission. Where there are patients of equal priority, preference should be given to patients with the longest waiting times, including any time waited as an outpatient (Hillier and Lieberman 2001).

Efficiency emerges as a central goal to the operations of healthcare organisations. Achieving organisational efficiency is necessary for healthcare organisation, given the changes that are currently occurring in the healthcare system. It is importance for any healthcare manager to maintain a certain level of slack to response to environmental demands and have the resources needed to improve their performance. Healthcare quality is a level of value provided to any healthcare resource. The goal of healthcare is to provide medical resources of high quality of life, to cure illnesses and to extend life expectancy, healthcare quality can also be measured by the level of patients/consumers satisfaction, reduction on diseases identified and thorough evaluation of health indicators.

Standardised methods for measuring and reporting waiting times should be developed. This requires development and consistent application of criteria for determining whether a patient should be placed on a waiting list, consistent approaches to defining 'time on' (that is, when a patient should be placed on a waiting list), and continuous monitoring to ensure that patients are appropriately prioritised and that those who no longer need to be on lists are removed. The whole waiting time from initial referral to the specialized care through to treatment (whole "care process") should be kept under review (Amero et al, 2004).

The following "steps" should also be possible to identify and measure:

- Total waiting time from the moment the hospital receives the referral until the examination starts.
- The time from the moment examination starts until examination finishes (the consultation may take several appointments and investigations).
- Total waiting time between end of examination and start of treatment.

As treatment methods change and the boundaries between ambulatory and inpatient care become more fluid then the two periods of waiting will need to be considered more closely. The scope of waiting times should cover both the management of access to outpatient consultations for assessment as well as inpatient admission for treatment. In addition, waiting times for investigations need to be monitored (Leneghan, 1997).

II. Review of Literature

This section presents the review of literature and extracted past works, ideas and empirical studies of many authors on patient waiting time; indices of hospital's effectiveness. Thus, the review describes, evaluates and summarizes the literature relevant to this study and is discussed under the following sub-headings:

2.1 Introduction

According to Bergen mar. et al., (2006), waiting time can be defined as an objective evaluation of the quality of service received against the individual's expectations. In this study, patient waiting time was expressed as an arithmetic sum of all sections waiting time. Patients spend a considerable amount of time in hospitals waiting for services to be delivered by physicians and other allied health professionals. Delayed access to health care is assumed to negatively affect health outcomes due to delays in diagnosis and treatment (Kenagy et al., 1999) plus unforeseen cost implications on the patients and public health system (Mesfin et al., 2010). The current emphasis in improving quality outpatient service delivery especially in public health facilities requires a detailed, fundamental understanding of how hospital outpatient departments operate and mapping the process of care is an important step towards this goal (Barach & Johnson, 2006).

One index in healthcare delivery by which the quality of service provided to patients can be evaluated is the uninterrupted movement of patients, known as patient flow. According to Hall (2006), patient flow represents the ability of the healthcare system to serve patients quickly and efficiently as they move through stages of care. Blockage in the flow can increase waiting and through put time creating unnecessary delay at the facility before the patient receives care, thus having an impact of health care outcomes (Vos, 2007). The Institute of Medicine (IOM) recommends that, at least 90% of patients should be seen within 30mins of their scheduled appointment time (O'malley et al., 1983). This is, however, not the case in most developing countries, as several studies have shown that patients spend 2-4 hrs. in the outpatient departments before seeing the doctor (Ofilli et al., 2005). A recent study carried out at the outpatient departments in Mulago hospital found out that the overall satisfaction of patients with outpatient services was closely related to their satisfaction with waiting time (Nabbuye-Sekandi et al., 2011). Reducing outpatient waiting times has been the focus of a large number of studies (Jessica Jitta, 2008; Nabbuye-Sekandi et al., 2011) because waiting and treatment times are usually regarded as indicators of service quality (MOH 2004; Nabbuye-Sekandi et al., 2011). However, despite the declared importance of ensuring timely access to care, little research has actually measured how long patients wait and also examined any empirical associations with patient waiting time for outpatient care.

Waiting time is an important determinant of quality services as it is noted that in health care provision 'delays are expensive, not only in terms of direct costs incurred, but also in terms of the potential costs of decreased patient satisfaction and adverse outcomes' (Haussmann, 1970). Waiting time studies have been done in settings such as specialized clinics like child health, maternal health clinics and medical clinics for priority conditions such as Acquired Immune Deficiency Syndrome, elective surgery clinics such as those dealing with organ transplant and other cosmetic surgery clinics and general outpatients' clinics.

With the challenge to deliver high quality services with limited resources (Hall et al., 2001) health care systems have placed greater emphasis on the efficient utilization of the

resources. Therefore, one of the most important operational issues in health care delivery involves increasing utilization and access by minimizing the delays in delivery.

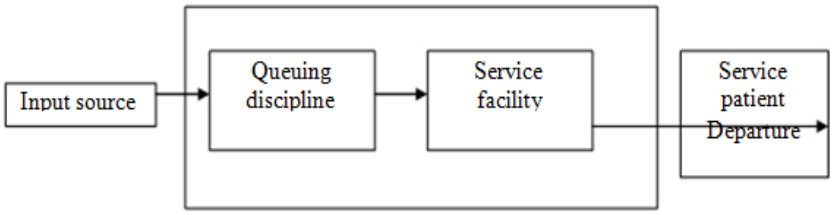
2.2 Theoretical Framework

The study was based on the following models:

2.2.1 Basics of Queuing Theory

The basic structure of the queuing model can be separated into input and output queuing system (Hillier and Lieberman, 2005). The simplest queuing model is called single-server single queue model as illustrated in figure 1. Single-server model has a single server and a single line of patients (Krasewski and Ritzman, 1998). It is a situation in which patients from a single line are to be served by a single service facility or server, one after the other.

Figure 1 A High-Level View of a Basic Queuing Process



Source: (Obamiro, 2010)

2.2.2 Description of the OPD patient queuing model (Input and output process)

Input process is known as the arrival process. These Patients enter the queuing system and join a queue to be served. A patient in the queue is selected for service by some rules known as the queue discipline. The required service is then delivered to the patient by the service mechanism, after which the patient leaves the queuing system (Hillier and Lieberman, 2005). The provision of services using certain rule and discharge of patients is referred to as output process.

2.1 Arrival

Although most analytical queuing models assume a constant patient arrival rate, many healthcare systems have a variable arrival rate. In some cases, the arrival rate may depend upon time but be independent of the system state. For instance, arrival rates change due to the time of day, the day of the week, or the season of the year. In other cases, the arrival rate depends upon the state of the system (Samuel and Jeffrey, 2007).

2.2 Waiting Line or Queue

A waiting line or queue occurs when patients wait before being served because the service facility is temporarily engaged. A queue is characterized by the maximum permissible number of patients that it can contain. Queues are called infinite or finite, according to

whether this number is infinite or finite (Hillier and Lieberman 2001). An infinite queue is one in which for all practical purposes, an unlimited number of patients can be held there. Unless specified otherwise, the adopted queuing network model in this study assumes that the queue is an infinite queue.

2.3 Queue Discipline

The queue discipline refers to the order in which members of the queue are selected for service (Hillier and Lieberman, 2001). In most healthcare settings, unless an appointment system is in place, the queue discipline is either first-in-first-out or a set of patient classes that have different priorities (as in an emergency department, which treats patients with life threatening injuries before others). Studies (Siddhartan et al., 1996) propose a priority discipline for different categories of patients and then a first-in-first-out discipline for each category. They find that the priority discipline reduces the average waiting time for all patients; however, while the waiting time for higher priority patients reduces, lower priority patients endure a longer average waiting time.

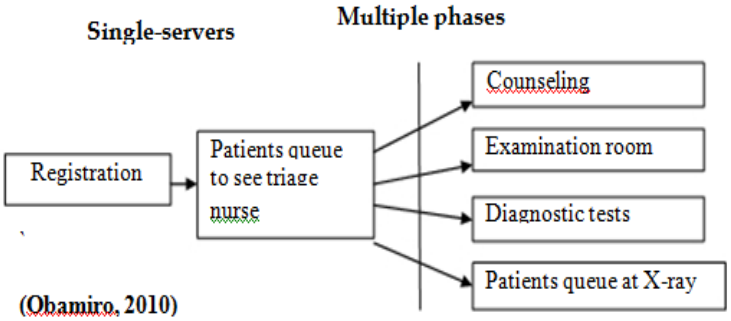
2.4 Service Mechanism

According to Mosek and Wilson (2001), service mechanism describes how the patient is served. In a single server system each patient is served by exactly one server, even though there may be multiple servers. In most cases, service times are random and they may vary greatly. The service mechanism also describes the number of servers. The first patient from the common queue goes to the server who becomes free first (Medhi, 2003).

2.2.2.4.1 Single-server, Multiple-phases System

With this system, there is still a single queue but patients receive more than one kind of service before departing the queuing system as shown in figure 2. At hospital outpatient department, patients first arrive at the registration desk, get the registration done and then wait in a queue to see a nurse for ancillary services before being seen by the consultant (physician). Patients have to join a queue at each phase of the system.

Figure 2: Queuing discipline showing a single-server and multiple phase System



2.5 Capacity of the System

A system may have an infinite capacity; that is, the queue in front of the server(s) may grow to any length. Furthermore, there may be limitation of space and so when the space is filled to capacity, an arrival will not be able to join the system and will be lost to the system. This can happen at any service point in the OPD. The system is called a delay system or a loss system, according to whether the capacity is infinite or finite respectively (Medhi, 2003).

2.2.2.6 Departure

Once patients are served, they depart through a number of routes. Once an OPD patient is served, a number of exit fates are possible:

i. The patient may be admitted to hospital specialized units.

ii. The patient may receive the service to their expectation and return to source population.

iii. The patient may experience delays and opt for a similar service elsewhere.

iv. A patient may be advised by the health worker at any point to seek services elsewhere due to capacity to handle the case.

2.3 Factors associated with waiting time in a health facility

2.3.1 Patient flow

Patient flow represents the ability of the healthcare system to serve patients quickly and efficiently as they move through stages of care. Blockage in the flow can increase waiting and through put time creating a negative effect on the quality of service delivery (Vos et al., 2007). When patient flow is handled well, it is represented by short wait at registration, examination, diagnostic testing, pharmacy and discharge (Belson, 2010). Thus, improving patient flow is one way of improving healthcare services.

2.3.2 Operational efficiency

Once a health care facility has an understanding of its patient flow, these flows can be used to improve the facility's operation (Côté, 2000). Therefore, efficient patient flow may be a key to achieve operational efficiency in the outpatient department (Kunders, 2004). According to (Wanyenze et al., 2010) a number of factors can influence efficiency and the emergence of bottleneck in health care operation during examining operational efficiency with regard to patient flow. These factors include the volume of patients seen on the daily basis, the types of patient seen in terms of stage of care, clinic policies on frequency of patient visits, the type of provider who they should see, the size and composition of the providers and the staffing model.

2.4. Physical design

The physical environment greatly affects the quality, efficiency, and efficacy of healthcare delivery in outpatient settings (A.I.A., 2004). To appreciate this concept, it is important to understand the journeys that patients make through the department. Patient environment can best be studied from the ordinary experience. Physical experience can be affected by the way in which spaces are connected, the changes of direction imposed by the circulation system, the creation of room sequences, the distribution of branching points, the availability of alternative routes, and the relations of visibility between and across spaces (Peponis and Zimring, 1996).

Studies show that hospital design coupled with walking distances and common journeys affects access to every department (Wanyenze et al., 2010), with a direct impact on the movement of patients, staff, and supplies (HFM, 2011). Therefore, controlling movement in terms of; the number of changes in direction needed to access different service points from the main entrance, the distance and number pit stops (treatment rooms), would ensure less use of time on walking to locate service points. Therefore, physical accessibility is an important factor for optimizing patient flow; and to achieve operational efficiency.

2.5. Emergence of bottlenecks in Outpatient departments

Patients are attended to in various units within the hospital system but almost invariably a high percentage of out-patients visit the hospital pharmacy unit for their drug needs (Margaret and Wilson, 2003). Most patients follow a single file from registration to examination but as soon as they leave the doctors' consulting clinics or examination room, they are either sent back and forth for further investigation to the laboratory or radiology units at various times. This generates a random arrival rate at the pharmacy, where the dispensing activities take place sequentially (Margaret and Wilson, 2003). Queues form when the rate of patient arrival at the any service point is greater than the service rate. According to Wanyenze et al. (2010) a number of factors can influence efficiency and the emergence of bottlenecks in health care operations. These factors include the volume of patients seen on the daily basis, the types of patient seen in terms of stage of care or illness, clinic policies on frequency of patient visits, the type of provider who they should see, the size and

composition of the providers and the staffing model. Other factors identified by Marjorie, (2008) include:

High Workload: If staffs are overworked, then patients have to wait longer as staffs have too many patients to attend to. This can be solved by decreasing service times (if they are too long); or by providing more staff if service times are appropriate or low; or by shifting staff from facilities with a low workload.

Patients turn up in batches: If many patients arrive at the same time then most of these patients would have to wait a long time as the staff member would be busy seeing the patients who were first in the batch and the rest would be waiting. So if 20 Patients arrive at the same time then the first patient would wait zero minutes if the health centre were empty and the second patient would wait for the time it took the staff to see the first patient (let's say 7 minutes), but the 20th patient would have to wait for the other nineteen to be seen, which would be 19 times 7 minutes or a wait of 103 minutes. A Big Batch is defined as twice as many patients arriving in a time-period than can be seen in that time-period.

Lack of efficiency: Patients may not effectively be attended to because much as staff members are present at the service point they are busy with something else; such as administrative work, preparation or teaching.

A logistical problem: Patients may be waiting to be seen and staff is available to see patients but due to a lack of equipment, rooms or other logistical needs, staff is unable to attend to the patients. There were staff present but patients waiting and the staff questionnaire shows there is a shortage of equipment or rooms.

Flow problems: Staff is available to see patients and patients are at the facility but they are being delayed at some other service point. There was staff present but no patients, however, patients are waiting long at a prior service point.

Queuing problems: This occurs when patients are attended to by staff in an illogical order, i.e. the patients are not attended to in the order that they arrive at the service point. This means that those who arrive first are not seen first, but are made to wait while others are seen before them. Illogical queuing (jump queue) has a large effect on individual patient waiting times.

2.6. Appropriate Waiting Times: Who Should Decide?

Because decision-making in health involves matters of life and death, health is accorded a unique position in comparison with other social issues. Further, health occupies a special place in policy analysis because of the status of the medical profession and its role in shaping and controlling health policy. For historic, cultural and political reasons, decision making regarding access, prioritisation and rationing within the health sector has been an implicit and indistinct process. The status of the medical profession, the trust in which they have been held by the general public, the lack of reliable data and evidence held by managers

and the unwillingness of governments to be explicitly involved in the process, have all led to this lack of clarity.

Now, calls for greater transparency, allied to budgetary constraints and escalating costs have led to the need for greater clarity with regard to decision-making. One of the major difficulties now faced with regard to decision-making about waiting times for services may make rationing a more explicit process. When decision-making was more implicit (if not covert), then laissez faire prevailed: doctors, in particular hospital consultants, appear to have traditionally made such decisions. Now, with greater calls for transparency and with more explicit connections being made between "prioritisation and decision-making" and "rationing", then responsibility for decision-making becomes more contested.

Leneghan (1997) also believes that waiting times and waiting lists are a form of rationing, which has been implicit until now. He remarks that the general public in the U.K. believed that rationing was a "recent and unwelcome phenomenon" whereas in reality, the National Health Service at district level has always used devices such as waiting lists and waiting times to restrict access to services. Hunter (1998) says that levels at which rationing take place become important when who should make decisions is being considered. Although it is clear that decision-making takes place at local level, there are five candidates for the role of decision maker at national level:

• Medical profession

• Health authorities and managers

• The public

• Governments

• The courts

2.7. Subsidiary vs. Equity

Decision-making takes place at a number of levels (Leneghan). In the UK, the Minister and the Department of Health are responsible for setting national priorities for the NHS. Priorities in health are decided within the context of wider government policies and in the context of agreed national spending limits. Local strategies are then expected to be developed within this framework, taking local considerations into account. Klein believes that local, district level has been the traditional site of decision-making regarding access when he outlines the various levels at which rationing takes place:

- Decisions at central government level about the allocation of resources to broad sectors or client
- groups
- Decisions about the allocation of resources to specific interventions and forms of treatment
- Decisions about how to prioritize access to treatment between different patients

- Decisions about how much to invest in individual patients once access has been achieved (Hunter 1998)

Hospital effectiveness has traditionally been measured by the "average length-of-stay" (LOS) metric; the number of day/period a patient stay in the hospital. But Rick Jackson, Chairman and CEO of Jackson Healthcare believes that LOS is an ill-advised measuring tool and the time has come for hospitals to adopt a new metric. "It is a common misconception that reducing LOS lowers hospital costs," says Jackson. "But eliminating a few meals and use of a bed makes very little difference to the bottom-line," he adds. According to Jackson, a recent study has determined that room and board represents 10.5% in total hospital revenues. Therefore, eliminating one day from a five-day LOS amounts to a reduction of less than 2% of costs.

Jackson strongly recommends that hospital management shift its focus to the real culprit in hospital costs – bottlenecks in and between departments. "What if a new metric were developed measuring hospital effectiveness, not by LOS, but with a new statistic we are calling ELOS, enterprise length-of-stay?" asks Jackson. ELOS is the sum of the various department lengths-of-stay (DLOS) for each patient. This includes the time required for diagnosis, treatment, and slack time (time wasted while waiting for a process to begin), from the time of departmental admission to departmental discharge. Duration/ length of stay ELOS includes time spent in every department including the ED, the OR, Radiology, nursing unit, pharmacy, and lab (i.e. any part of the hospital that consumes space and time). Obviously, reductions in DLOS will improve a patient's DLOS.

2.8 System-centric vs. Department centric.

LOS is an unpreventable outcome, whereas ELOS is the preventable cause and the rationale for managing it, ultimately ending in earlier discharges. "The payoff in discharging patients sooner is not reducing the cost of an inpatient hospitalization, which is shown to be minimal, but rather to free physical capacity so it can generate additional revenue," says Jackson. "And that payoff comes about," he adds, "through identifying and managing slack time in each department." According to Jackson, analysing bottlenecks, especially in peak periods, requires a sophisticated hospital wide management system. It has to connect and communicate between departments in a way that prevents "pushing the bubble around" (i.e. relocating the bottlenecks rather than reducing them).

2.9. Active and suspended patients

The active waiting list should include patients awaiting elective admission for treatment which are currently available to be called for admission. The active waiting list should exclude patients who are not currently available for admission (suspended patients).

Suspended Waiting: A list of patients awaiting elective admission who, due to some underlying medical condition or a social reason, are not currently available to be called for admission.

2.10. Suspended admissions criteria

• Patients who have another medical condition which needs prior treatment.
• Patients who have difficult personal circumstances of uncertain duration.
• Patients who decline an offer of admission with no intention of coming in during the immediate future.

It can be helpful to keep these patients separate (computer listing) for the maintenance of the list:
- Patients are not accidentally called for admission
- Patients are excluded from the list from which clinicians select patients
- These patients are more easily monitored
- Management information is more accurate
- Patients who persistently turn down offers of admission for social reasons could be removed from the waiting list altogether.

Computer systems must have the facilities for temporarily suspending and reinstating patients. Waiting list *totals* should include both groups of patients (active and suspended patients).

2.11. Patients with and without an admission date

Ideally, a patient's admission date should be agreed and booked, at the same time as a decision is made that hospital treatment is required. This removes a considerable amount of uncertainty for the patient and can assist in planning the use of resources as well as be a help in reducing the rate of patient non-attendance. Waiting list totals should include both groups of patients (with and without admission date).

2.12 Planned admissions vs. active waiting list

Planned admissions are patients who are waiting to be recalled to hospital for a further stage in their course of diagnosis/treatment. Keeping the records as a separate sub-division ensure that they are not overlooked for admission after the appropriate interval and simplifies the compilation of information about these patients both for those with and without admission dates.

III Methodology:

The study population includes all the 150 respondents who were solicited with convenience sampling technique in the hospital, a total of one hundred and fifty copies of questionnaire were distributed to the respondents. One hundred and forty (140) copies were duly filled and returned, with a response rate of 93.3%. The data collected were sorted, organized and tabulated using frequency counts and percentages distribution.

IV. Findings

Table 1: Analysis of What Patients' perceived causes of long waiting time

	Perceived Causes	SA (%)	A (%)	U (%)	D (%)	SD (%)	Remark
1	Doctor arrived late	20 (14.2)	45 (32.4)	-	62 (44.2)	62(44.2)	D
2	Long search for Pt. records	16 (11.4)	64 (45.8)	8 (5.7)	52 (37.1)	-	A
3	Large numbers of patients with few doctors	41 (29.3)	85 (60.7)	11 (7.9)	3 (2.1)	-	A
4	Patients jumping queue	20 (14.2)	45 (32.4)	-	62 (44.2)	13 (9.2)	D
5	poor record keeping	16 (10.7)	74 (56.7)	8	42 (32.6)	-	A
6	inadequate health personnel	16 (11.4)	64 (45.8)	8 (5.7)	52 (37.1)	-	A

Table 1 reveals Patients' perceived causes of long waiting time 62(44.2%) and 62(44..2%) of the respondents disagreed respectively with the statements that doctor arrived late to their duties, and that patients jumping queue. 64(45.8%), 85(60.7%), 74(56.7%) and 64(45.8%) of respondents agreed respectively that: Long search for records, large numbers of patients with few doctors, poor record keeping and inadequate health personnel were the major causes of long waiting time in hospital.

Table 2: Analysis of how patients measure hospital effectiveness by their waiting time

SN		SA (%)	A (%)	U (%)	D (%)	SD (%)	Remark
1	Time spent in the waiting room is less than 60 min.	-	20 (14.3)	8 (5.7)	80 (57.1)	32 (22.9)	D
2	Time spent in the waiting room is less than 60 min. and satisfied	16 (11.4)	49 (35.0)	-	75 (53.6)	-	D
3	Time spent with doctor in consulting room was less than 30 min .and was satisfied.	41 (29.2)	85 (60.7)	-	14 (10.0)	-	A
4	Time spent with doctor in consulting room was greater than 30min.and was not satisfied.	37 (26.4)	81 (57.9)	-	22 (15.7)	-	A

Table 2 above reveals patients measure of hospital effectiveness by their waiting time. The table shows that majority of respondents represented by 80(57.1%) and 75(53.6%) disagreed with the statement that time spent in the waiting room was less than 60 minutes, and satisfied respectively. Meanwhile, majority of respondents 85 (60.7%), agreed that time spent with doctor in consulting room was less than 30min and was satisfied, whereas, 81 (57.9%) agreed that time spent with doctor in consulting room was greater than 30min. and was not satisfied.

Conclusion and Recommendations

There is the need for health care facilities and hospital administrators to address gaps in human resources, logistics and other internal procedures aimed at reducing waiting times and thus ensuring an effective health care delivery system. Based on the findings made, the following recommendations were made;

- Federal and state governments should encourage the adoption of information technologies, including the use of electronic health records (EHR) which serves as prompt and reminders to eliminate most of the waiting time encountered at the records section and doctors consultation period.
- Adoption of appointment system for repeat patients at the secondary and tertiary health sectors. These appointments should be culturally sensitive to prevent over-crowding and long waiting time in the general out-patients department.

- Enactment of strategies by government to increase wages and benefits for health care workers and development of a federal system for the dissemination and application of comparative effective research in dealing with issues such as the subject of this study.

- Further research may be necessary to identify other possible causes of prolonged waiting time in public health care facilities in order to engender holistic policy interventions by relevant authorities.

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