

MONITORING AND ANALYSIS OF WAITING TIME IN THE OUT PATIENT DEPARTMENTS IN A TERTIARY CARE HOSPITAL**Dr. Junior Sundresh¹, Dr. Nazia Kouser^{2*}, Dr. Naseem Sait K.³,****Dr. Mir Mohammed Noor⁴**

¹Associate Professor of Surgery M.B.A (H.M) Coordinator Raja Muithaiah Medical College
Annamalai University Chidambaram.

²M.B.A 2nd Year (H.M) C.M.O Meridian Medical Centre Bangalore 560005.

³Consultant Physician Meridian Medical Centre Bangalore 560005.

⁴Professor Department of Surgery Bangalore Medical College.

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Corresponding Author*Dr. Nazia Kouser**

M.B.A 2nd Year (H.M)
C.M.O Meridian Medical
Centre Bangalore 560005.

ABSTRACT

Out-patient department is the first point of contact that a patient has with any hospital. This is a place which provides primary and comprehensive health care for patients who come for diagnosis, treatment or follow-up care. Patients may come directly or be referred from dispensaries and other health centers. A patient's impression of the hospital begins at the outpatient department (OPD). Outpatient department services are the most important services provided by all the hospitals as it provides service to a large number of patients at a low cost. The quality of service administered by any hospital can be

improved by focusing more on reducing the patient waiting time. This study can be carried out in any type of healthcare setup i.e. hospitals, health centres, clinics, nursing homes etc.

KEYWORDS: Out-patient with any hospital.

MATERIALS AND METHODS

This study was undertaken in MERIDIAN MEDICAL CENTRE BANGALORE KARNATAKA. This was conducted for a period of one month during JUNE 2016. The patients who visited the outpatient departments of the hospital were monitored. This study is a descriptive research and most of the primary data was obtained by direct observation. The waiting time was captured in all the outpatient departments by the respective secretaries through observation and written in the records initially. Later, it was entered into the system.

The time when the patients arrived at the outpatient department was noted. The time when they entered the doctor's room for consultation was also noted. This was done in all the outpatient departments from 9 am to 8 pm.

The primary data in the present study has been collected by observing the patients' arrival time to the outpatient department and also the time when they enter the doctor's room for consultation. The sources of secondary data were the records from the hospital, websites, articles, textbooks and from Hospital Information System (HIS).

Those patients visiting the various outpatient departments of the hospital were identified as the samples. Both genders were considered for the study. The data present was analyzed, presented using bar charts and interpreted. The overall outpatient department waiting time and the range of the waiting time in the individual outpatient departments were analysed and presented.

Waiting time for outpatient consultation:

A waiting time is a length of time which one must wait in order for a specific action to occur, after that action is requested or mandated.

$$\text{OPD waiting time} = \frac{\text{Sum (Patient Intime for Consultation/Procedure - Patient Reporting Time in OPD)}}{\text{Number of Patients reported in OPD.}}$$

In the month of JUNE 2016, about 5543 patients were analysed in all the outpatient departments. The average waiting time was found to be 41 minutes.

RESULTS

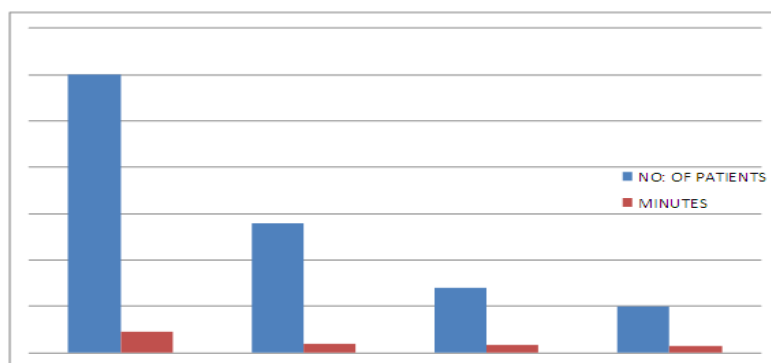


Chart-1 illustrates the range of the overall waiting time in all the outpatient Departments

This chart depicts the overall waiting time for the month of JUNE. Totally 5543 patients analysed in 25 outpatient departments. 54.4% of the patients waited for 30 minutes, 24.8% of patients waited for 60 minutes, 11.1% of patients waited for 90 minutes and 9% and above of the patients waited for more than 90 minutes. The average outpatient waiting time was 51 minutes.

Individually departments were considered and data is as follows:

Out of 453 patients, 211 patients waited for 30 minutes, 144 patients waited for 60 minutes, 71 patients waited for 90 minutes and 31 patients waited for more than 90 minutes. The average waiting time in **Cardiology** outpatient department was 42 minutes. Out of 111 patients, 65 patients waited for 30 minutes, 22 patients waited for 60 minutes, 13 patients waited for 90 minutes and 11 patients waited for more than 90 minutes. The average waiting time in **Dental** outpatient department was 16.

Minutes. Out of 23 patients, 12 patients waited for 30 minutes, 6 patients waited for 60 minutes, 3 patients waited for 90 minutes and 2 patients waited for more than 90 minutes. The average waiting time in **Dermatology** outpatient department was 19 minutes.

Out of 143 patients, 84 patients waited for 30 minutes, 41 patients waited for 60 minutes, 15 patients waited for 90 minutes and 3 patients waited for more than 90 minutes. The average waiting time in **E.N.T.** outpatient department was 39 minutes. Out of 34 patients, 18 patients waited for 30 minutes, 7 patients waited for 60 minutes, 5 patients waited for 90 minutes and 4 of them waited for more than 90 minutes. The average waiting time in **Endocrinology** outpatient department was 1 hour 4 minutes. Out of 56 patients, 16 patients waited for 30 minutes, 13 patients waited for 60 minutes, 2 patients waited for 90 minutes and 25 patients waited for more than 90 minutes. The average waiting time in **Gastroenterology** outpatient department was 1 hour 48 minutes.

Out of 22 patients, 06 waited for 30 minutes, 4 patients waited for 60 minutes, 02 patients waited for 90 minutes and 10 patients waited for more than 90 minutes. The average waiting time in **Medical Oncology** outpatient department was 1 hour 44 minutes. Out of 2721 patients, 1422 patients waited for 30 minutes, 654 patients waited for 60 minutes, 322 patients waited for 90 minutes and 224 patients waited for more than 90 minutes. The average waiting time in **Medicine** outpatient department was 42 minutes. Out of 76 patients, 22 of them waited for 30 minutes, 19 patients waited for 60 minutes, 07 patients waited for 90

minutes and 28 patients waited for more than 90 minutes. The average waiting time in **Nephrology** department was 1 hour 36 minutes. Out of 24 patients, 9 of them waited for 30 minutes, 06 patients waited for 60 minutes, 04 patients waited for 90 minutes and 05 patients waited for more than 90 minutes. The average waiting time in **Neuro Surgery** outpatient department was 1 hour 11 minutes. Out of 30 patients, 09 patients waited for 30 minutes, 08 patients waited for 60 minutes, 03 patients waited for 90 minutes and 12 of them waited for more than 90 minutes. The average waiting time in **Neurology** outpatient department was 1 hour 56 minutes.

Out of 126 patients, 76 patients waited for 30 minutes, 31 patients waited for 60 minutes and 06 patient waited for 90 minutes. 13 patients waited for more than 90 minutes. The average waiting time in **Obstetrics & Gynecology** outpatient department was 1 HOUR & 25 minutes. Out of 56 patients, 31 patients waited for 30 minutes, 14 patients waited for 60 minutes, 06 waited for 90 minutes and 05 patients waited for more than 90 minutes. The average waiting time in **Ophthalmology** outpatient department was 34 minutes Out of 343 patients, 202 patients waited for 30 minutes, 130 patients waited for 60 minutes, 08 patients waited for 90 minutes and 3 of them waited for more than 90 minutes. The average waiting time in Orthopedics outpatient department was 17 minutes. Out of 78 patients, 44 patients waited for 30 minutes, 16 patients waited for 60 minutes, 10 patients waited for 90 minutes and 08 patients waited for more than 90 minutes. The average waiting time in **Paediatric Surgery** outpatient was 31 minutes Out of 856 patients, 543 patients waited for 30 minutes, 172 patients waited for 60 minutes, 111 patients waited for 90 minutes and 30 patients waited for more than 90 minutes. The average waiting time in Paediatrics outpatient department was 33 minutes. Out of 26 patients, 15 patients waited for 30 minutes, 06 patient waited for 60 minutes and 04 patient waited 90 minutes. 01 patients waited for more than 90 minutes. The average waiting time in **Plastic Surgery** outpatient department was 8 minutes. Out of 17 patients, 09 patients waited for 30 minutes, 05 patients waited for 60 minutes, 2 patients waited for 90 minutes and 1 patients waited for more than 90 minutes. The average waiting time in **Psychiatry** outpatient department was 35 minutes. Out of 156 patients, 94 of them waited for 30 minutes, 43 patients waited for 60 minutes, 12 of them waited for 90 minutes and 07 of them waited for more than 90 minutes. The average waiting time in **Pulmonology** outpatient department was 33 minutes. out of 154 patients, 110 patients waited for 30 minutes, 32 patients waited for 60 minutes, 08 patients waited for 90 minutes and 04 patients waited for more than 90 minutes. The average waiting time in **Surgery** outpatient department

was 29 minutes. Out of 36 patients, 21 patients waited for 30 minutes, 10 patients waited for 60 minutes, 02 patients waited for 90 minutes and 03 patients waited for more than 90 minutes. The average waiting time in **Urology** outpatient department was 35 minutes.

DISCUSSION

The waiting time for outpatient department consultation can be reduced by providing appointments regularly to patients on fixed days of the month. The organization also follows an appointment system which is well carried out in few departments.^[1] One important factor leading to long waiting time in most hospitals was high patient load, which lead to overcrowding. The outpatient department waiting time was also found to have an impact on patient satisfaction. Another matter of concern in some hospitals (both rural and urban) was the lack of human resources to manage the crowd of patients during peak hours. Separate registration counters for new and old patients were suggested.^[2] Adam Addissie, et al. (1997) conducted a study on the outpatient department of Jimma Hospital. The main aim of this study was to assess the patient waiting time and service time. A cross- sectional study of 853 patients was done and the time of arrival and departure was recorded using wrist watches. The result of the study was that it took about 9 hours and 13 minutes for a patient to finally leave home, out of which 49.6% was spent waiting for services.^[9] Vijaya Bharat, Bijoya Mohanty and N K Das (1998) conducted a study in the Cardiology outpatient department of Tata Main Hospital, Jamshedpur. They selected 258 patients using random sampling method. They discussed that crowding of the outpatient department was overcome by giving appointments to chronic patients on regular visits. The efficiency was improved by increasing the availability of doctors, by scheduling elective procedures after the outpatient department consultation and also by starting a pacemaker clinic.^[4] M O Oche and H Adamu (2013) assessed the determinants of patients' waiting time in the general outpatient department (GOPD) of a tertiary health institution. It was conducted at the Usmanu Danfodiyo University Teaching Hospital, Sokoto, North Western Nigeria. They found that half of the patients waited for more than 1 hour and the main causes of long waiting time were the high patient load with few doctors and nurses. They suggested in increasing the number of health workers.^[5]

Prof. Dinesh.T.A, et al. (2013) suggested that the waiting time in outpatient services can be reduced through a six sigma approach. This study was conducted in the Cardiology department of a large University Teaching Hospital. The Define, Measure, Analyze, Improve,

Control (DMAIC) method was used. Around 640 patients were selected by simple random sampling and the waiting time was obtained through direct observation. For understanding customer perception, Voice of Customers (VOC) was collected from 320 patients using standardized questionnaire. They concluded that there was an overall reduction in waiting time for cardiac consultation as well as for lab results.^[6] Sharma and Dr Chowhan (2013) studied 'Patient Waiting Time: Its Impact on Hospital Outpatient Department'. This was a descriptive study. Checklists were given to 45 patients visiting the outpatient department and the data was collected through observation and interview method.^[10] Mardiah and Basri (2013) carried out a study at Indonesia's Public Hospital. Their aim was to analyse the major causes of patients waiting time for medical treatment and to help improve the appointment system. The research methodology used was case study. Data was collected through interviews and direct observation in the outpatient departments. They suggested the hospital to construct the appointment system, take attention of patient flow and set scheduling of the capacity to increase the efficiency and effectiveness of outpatient department performance.^[3] Varun Viramani, et al. (2014) analyzed the waiting time of outpatient department at Gujarat Medical Education and Research Society (GMERS) Medical College Hospital Valsad. Their main aim was to identify the factors responsible for high waiting time. Data was collected from 124 respondents randomly. Patients were given questionnaires and were also observed. Some of their findings were the number of registration counters were insufficient, patients waited more outside Medicine, Surgery and Gynecology consultation rooms.^[7]

Dr Nirmala Manna, Dr Md Samsuzzaman and Dr Saikat Das (2014) carried out a time motion study in the outpatient department clinic of a rural hospital of West Bengal. An observational descriptive study was done at Tarakeswar rural hospital among 192 patients, for a period of four months. They found that, according to 46.88% population, the total time spent in waiting was too long. They concluded by saying that efficient functioning and smooth running of any outpatient department required a very good time management.^[8] Ayesha Siddiqua and Tamilenthil.S (2013) conducted a survey in the outpatient clinic of Fortis Malar hospital, for a period of 1 month. 195 patients were selected using convenience sampling method. They collected their primary data through observation method. They found that the waiting time in the various outpatient departments was very high. They suggested recruitment of additional hospital staff, the use of either block or individual appointments or both and also the time taken for registration and billing to be reduced. They concluded by saying, prolonged waiting time leads to patient dissatisfaction.^[11]

CONCLUSION

The average waiting time for all the outpatient departments was found to be 51 minutes. The lowest waiting time was 8 minutes in Plastic Surgery outpatient department. The highest waiting time was 140 minutes in outpatient department.

In few departments like Endocrinology, undue delay in waiting time was attributed to patients waiting for the investigation reports to see the consultant. Departments like Neurology, Neurosurgery and Nephrology – the delay was found to be due to the doctors attending the patients after their regular rounds of inpatients during the mornings. The patients were delayed to see the doctors at Gastroenterology because of procedures undergone for few patients like endoscopy, colonoscopy etc.

Outpatient waiting time is a Quality Indicator which is of great concern to the hospitals these days. The waiting time affects the patient satisfaction level and also the productivity of the hospital. The online appointment system can be introduced and the increasing the number of appointments can be one area of focus to avoid patients waiting for excess time. The process of implementing Electronic Medical Records (EMR) for entry of patient data in the long run can be taken into consideration as now documentation is being done manually. Through this, there would be no need for the patients to wait for their files to arrive. Six Sigma DMAIC approach (Define, Measure, Analysis, Improve and Control) could be introduced to improve the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing variability in the work process.

REFERENCES

1. Dr. Sanjay Arya, Dr. S.V. Adhish., Patient Care Services-1, National Institute of Health and Family Welfare, New Delhi-110 067.
2. Anand T. R. and Gupta Y.P., Rationalisation of Working of OPD in a Hospital – A Case Study Health and Population – Perspective and Issues (2): 77-94, NIHF, New Delhi, 1983.
3. Agarwal A.K., Management of Hospitals in India –Status Report Series-3, National Institute of Health and Family Welfare, New Delhi-110067.
4. Vijaya Bharat, Bijoya Mohanty, N K Das., Waiting Time Reduction in Outpatient Services- Analogy to Heart Failure Therapy, Indian Journal of Occupational and Environmental Medicine, Vol 3, No 4, Oct-December 1999.

5. M O Oche, H Adamu., Determinants of Patient Waiting Time in the General Outpatient Department of a Tertiary Health Institution in North Western Nigeria, *Ann Med Health Sci Res.*, 2013 Oct; 3(4): 588-92.
6. Dinesh T.A., et al., Reducing of Waiting Time in Outpatient Services of Large University teaching hospital-A Six Sigma Approach. *Management in health*, XVII/1/2013; 31-37.
7. Varun Virmani et al., Waiting Time Analysis of Outpatient Department at Gmers Medical College Valsad, Volume: 3/Issues: 2/February 2014.ISSN No 2277-8179.
8. Dr. Nirmalya Manna, Dr Md Samsuzzaman, Dr. Saikat Das., A time motion study in the OPD clinic of a rural hospital of West Bengal, *IOSR Journal of Dental and Medical Sciences*, Vol 13, Issue 7 Ver.II(July.2014): PP 34-37.
9. Adamu Addissie et al., Patient waiting and service time in the outpatient department of Jimma Hospital, Vol.8, No1 January 1998.
10. Dr. Sandesh Kumar Sharma, Dr.Sudhinder Singh Chowhan., Patient Waiting Time: It's Impact on Hospital Outpatient Department, Volume: 2/Issue: 3/Mar 2013.ISSN No 2277-8179.
11. Aysha Siddiqua, Tamilenth. S., A study on out-patient services and time management at Fortis Malar Hospital, Chennai, India, *Journal of Multidisciplinary Scientific Research*, 2013; 1(4): 01-05.