



MEDICINE DISPENSING TURNAROUND TIME IN ONCOLOGY DEPARTMENT AT FORTIS ESCORT HOSPITAL JAIPUR

By;-

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Fortis Hospital, Mohali



Escorts Heart Institute &
Research Centre Ltd, Okhala



Fortis Hospital, Noida



Fortis Ft. Lt. Rajan Dhall
Hospital, Vasant Kunj



Fortis La Femme, New Delhi



Fortis Escorts Hospital,
Faridabad



Fortis Escorts Hospital, Jaipur



Fortis Malar Hospital, Chennai



Hiranandani Fortis Hospital,
Vashi, Mumbai



Escorts Heart Centre, Raipur



Fortis Escorts Hospital,
Amritsar



Fortis Jassa Ram Hospital,
New Delhi



Fortis Hospital
Seshadripuram, Bengaluru



Fortis Clinique Darne,
Mauritius



Fortis Modi Hospital, Kota



S.L.Raheja Hospital, Mumbai



Fortis Hospital,
Shalimar Bagh,
New Delhi



Fortis International
Institute of Medical-Bio
Sciences, Gurgaon



Fortis Kangra, HP



Fortis Mysore

ABOUT THE ORGANIZATION :-

- Fortis Escort Hospital in Jaipur is a premier healthcare institution renowned for its exceptional medical services and patient care.
- Fortis Escort Hospital boasts modern infrastructure with advanced medical equipment and technology to ensure precise diagnosis and effective treatment.
- The hospital's laboratories are equipped with cutting-edge diagnostic equipment, providing a wide range of tests and pathology services.
- . The oncology unit at Fortis Escort Hospital offers state-of-the-art cancer care, including chemotherapy, radiation therapy, and surgical oncology.
- The hospital also caters to international patients, offering specialized services, including assistance with travel and accommodation.

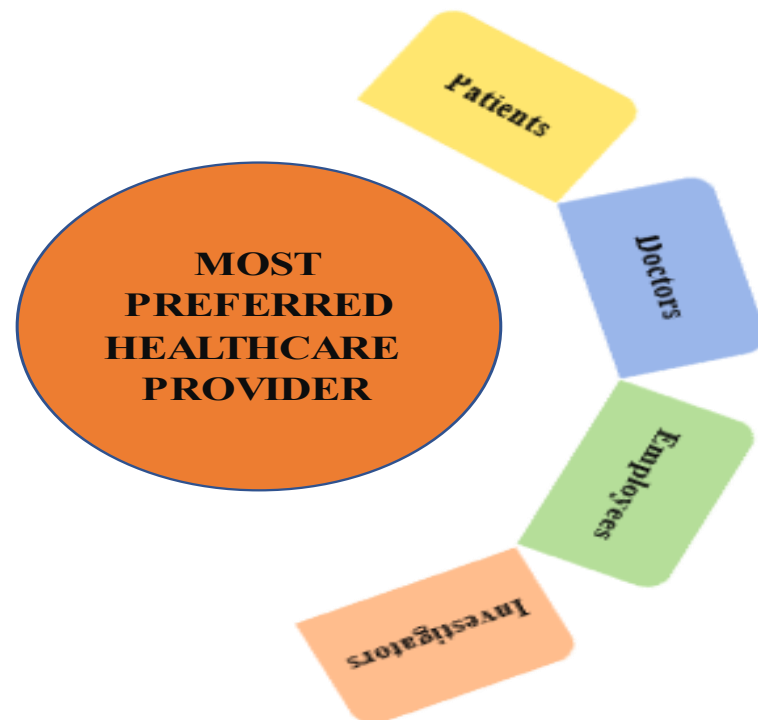
Fortis Escort Hospital in Jaipur stands out as a beacon of medical excellence, offering a blend of advanced healthcare services, patient-centric care, and community involvement.

- The neurology and neurosurgery departments are equipped to handle advanced treatments for neurological disorders, including stroke management and brain and spine surgeries.



OUR MISSION :- To be a globally respected healthcare organisation known for Clinical Excellence and Distinctive Patient Care.

OUR VISION :- To create a world-class integrated healthcare delivery system in India, entailing the finest medical skills combined with compassionate patient care.



- Affordable quality care
- Best-In-Class facilities
- Patient Centric Systems and processes

- Clinical outcome driven excellence
- Latest Medical Technology
 - Strong Academics
 - Research Oriented.

- Enriching Atmosphere
- Collaborative Culture
- Growth Driven Career Approach

- Transparent Governance
- Strong Operational Performance
- Consistent Growth

INTRODUCTION :-



This research aims to investigate the pharmaceutical dispensing turnaround time at Fortis Escorts Hospital in Jaipur's cancer department. Through an analysis of existing procedures and the identification of possible bottlenecks.

Timely availability of medicine in the oncology department is crucial for several reasons. It ensures that treatments such as chemotherapy and radiation therapy are administered at the optimal times for maximum effectiveness, preventing the progression of cancer.



Prompt access to medication also helps in the management of side effects and the prevention of complications, improving patients' quality of life.

RESEARCH QUESTION :-

Are there specific factor associated with longer Turnaround times for dispensing medications in the oncology department ?

AIM:-

To establish and maintain a structured framework for ensuring timely medication administration in the oncology department at Fortis Escort Hospitals.

OBJECTIVES :-

- To measure the average turnaround time for dispensing medications in the oncology department at Fortis Escorts Hospital Jaipur.
- To evaluate the current medicine dispensing process in the oncology department against established national benchmarks or practices in similar settings.
- To identify factors contributing to variations in medicine dispensing turnaround time within the oncology department.

NEED OF THE RESEARCH :-

Timely medication in oncology is crucial to improve patient outcomes by promptly targeting cancer cells, reducing progression, and minimizing complications. Research ensures the development of effective treatment protocols and personalized medicine, enhancing survival rates and quality of life. Continuous research also aids in discovering new therapies and understanding resistance mechanisms.

LITERATURE REVIEW

S.NO.	AUTHOR NAME & YEAR	TITLE	OBJECTIVE	METHODOLOGY	RESULT
1.	Matt Lamm, M.Sc., BCPS, Pharm.D.,	Enhancing outpatient adult infusion clinic turnaround times for chemotherapy preparation by applying lean concepts	To find ways to improve efficiency and productivity, the adult infusion clinic's workflow and turnaround times for chemotherapy preparation were assessed	Three stages of research were conducted using the Lean Six Sigma methodology. Chemotherapy turnaround times in the adult infusion clinic were examined a year after the intermediate goal of 45 minutes was established	Lean principles reduced adult outpatient chemotherapy infusion order turnaround times: phase 1 to 44 minutes, phase 2 to 37 minutes, and phase 3 to 26 minutes. The total mean turnaround time decreased by 57% in 19 months.
2.	Peter Sullivan, Scott Soefje, David Reinhart, Catherine McGeary, Eric D. Cabie	Increasing productivity in a hospital's oncology pharmacy by implementing lean methods	A hospital pharmacy's quality gains, resulting from compounding workflow modifications guided by lean methodology, are reported.	Employing lean methodology, which eliminates non-value-added steps and waste in the production process, staff pharmacists and pharmacy technicians performed a failure mode and effects analysis, workflow mapping, and impact analysis to identify 38 opportunities to reduce waste and increase efficiency.	Based on baseline and postimplementation time trial results, the entire turnaround time was reduced to about 70 minutes from a baseline duration of about 90 minutes.

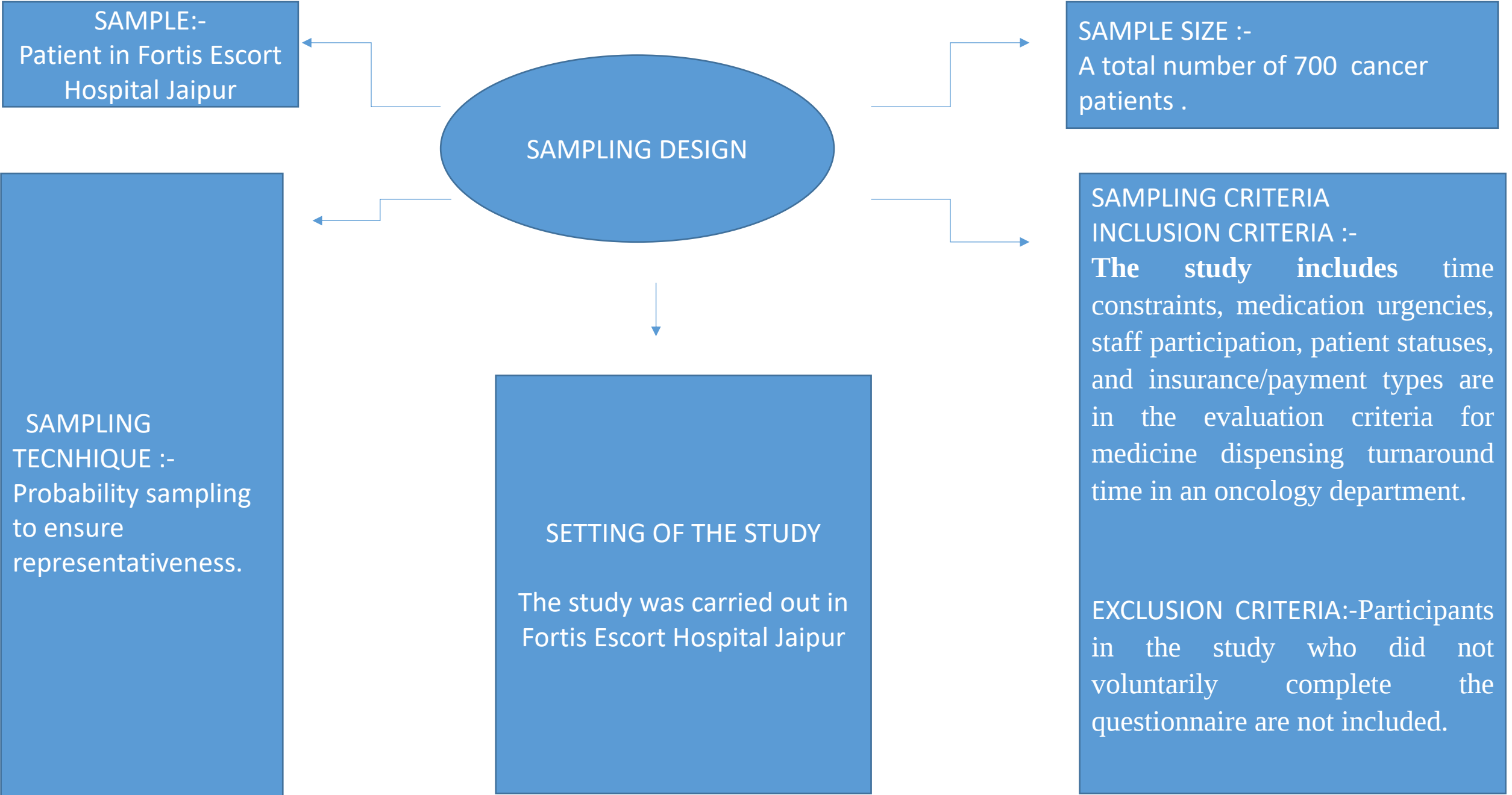
S.NO.	AUTHOR NAME & YEAR	TITLE	OBJECTIVE	METHODOLOGY	RESULT
3.	@khcc.jo/ shamodeh [Suzan Hammoudeh, ORCID: 0000-0002-1928-9591] Abdullah Amireh, Lama Nazer, Enas Jazairy, Ronza Al- Dewiri, and Saad Jaddoua	The impact of implementing lean management on waiting times, staff and patient satisfaction, and an outpatient pharmacy in a comprehensive cancer center in Jordan.	Long wait times were the main reason why our institution's outpatient pharmacy services had a patient satisfaction rate that was below target. The decision was made to develop and implement a lean management strategy in order to reduce patient wait times and increase staff and patient satisfaction	The method started with the formation of a multidisciplinary team, A3 problem-solving, and a 10-step scientific technique with measurable patient-centered outcomes.	The project increased patient satisfaction (62% to 69%; P = .005) and reduced prescription waiting times for three or more medications (22.3 to 8.1 minutes, P = .001) and fewer than three medications (31.8 to 16.1 minutes, P = .002).
4.	Ankit Singh, Priya Ravi, Shraddha Pradhan, and Shrikrishna Dhale 05 May 2020	Utilizing 5 S and Six Sigma to expedite the delivery of medications	With this study, a Bangalore tertiary care hospital's prescription turnaround time will be shortened. Using input from both internal and external consumers as well as the benchmark from two studies where improvement times were 70 and 66 minutes, the objective for improvement was set at one hour.	Combining the DMAIC technique of Six Sigma with the'Seiton' concept of the 5 S quality tool reduces medication turnaround times and increases process sigma.	By the time the trial ended, the average turnaround time, which had been 1 hour and 29 minutes, had dropped to 48 minutes, and the sigma level had increased from 1.22 to 2 sigma.

S.NO.	AUTHOR NAME & YEAR	TITLE	OBJECTIVE	METHODOLOGY	RESULT
5.	Amanda Y. Leong, Mary Pederson	Enhancing workflow procedures in a cutting-edge drugstore	This pilot project's objective was to track and identify opportunities for improving the efficiency of a tertiary level acute care teaching hospital	Work sampling was used in a single-center pilot project to improve the prescription distribution process at a 1096-bed tertiary care teaching hospital in Calgary, Alberta, Canada. The dispensary operates 24/7 to meet the hospital's needs.	Except for oncology, all in-patient wards receive their medication from the dispensary pharmacy
6.	Zhengjia Chen, PhD, Collin E. Lee, PharmD, BCPS, Manali Rupji, MS, Ryan Haumschild, PharmD, MS, MBA, Bassel El- Rayes, MD, Colleen McCabe, PharmD, Meagan Barbee, PharmD, BCOP, Marley Watson, PharmD, BCOP, Alyssa Billmeyer, PharmD, MHA,	Adherence rates to oral chemotherapy drugs filled by external specialty pharmacies against internal health-system pharmacies are compared.	The study aimed to compare patient adherence rates (MPR) to anticancer drugs between external specialty pharmacies and internal health system specialty pharmacies (HSSP), with secondary outcomes including TTT and PDC. 3.5	A retrospective record review compared MPR, PDC, and TTT in patients on oral anticancer treatment using prescription claim data. Covariates' effects on adherence and TTT were assessed via t tests/Wilcoxon tests and significant factors were further analyzed using multiple regression with backward exclusion.	Out of 300 screened, 204 had MPR/PDC data, 164 had TTT. Significant differences in mean MPR (1.00 vs. 0.75, P < 0.001) and PDC (0.95 vs. 0.70, P < 0.001) were found .

RESEARCH METHODOLOGY

PROCEDURE FOR DATA COLLECTION :-

- **Observational studies;** - I have directly observe and record each step of the dispensing process the time at which the computer operator indent the medicine and the time medicine is administered to the patient.
- **Surveys and Interviews:** I have Gather staff feedback on challenges they are facing and I have given some suggestion for area of improvement.
- **Patient Records Review:** I have Review patient charts to track actual turnaround time so the accurate time I can note for the administration of the chemo to the patient.
- **Benchmarking and Comparison:** I have Compare turnaround time of medicine dispensing with Hospital policies and guidelines for insights.



DEVELOPMENT OF THE TOOL :-

- The literature review, expert guidance, and the study objectives were all followed in the instrument's development. There are two sections in the questionnaire (Annexure 1).

- **Description of the tool**

- **Section A:** contains itemized sociodemographic data,
 - Such, as;-Age ,Gender

Years of experience, together with education

- **Section B:** In oncology Department timely medicine importance.

- **3.6 SCORING AND INTERPRETATION**

- Multiple-choice questions with three distracting options and one right answer were used to formulate the questions. For a correct response, you receive one mark, and for a wrong response, you receive zero.
- The obtained knowledge score varied from:
 - Sufficient timely medicine :- 66 to 100 %
 - Adequate in a moderate way :- 26 to 65 %
 - Less than timely: ($\leq 25\%$).

ETHICAL CONSIDERATIONS

- Ensuring ethical conduct is paramount in this study. Patient privacy will be protected by anonymizing data whenever possible. Informed consent will be obtained for any surveys or interviews, clearly explaining the study's purpose and data use.
- Data collection activities will not disrupt patient care or cause undue stress. Robust data security measures will be in place to protect patient information.
- Finally, findings will be communicated transparently to patients, healthcare providers, and hospital administration to foster trust and inform decisions about potential improvements to the medication dispensing process.



RESULTS

The Ideal TAT for dispensing medications in the chemo day care oncology department. The data analysis reveals both positive aspects and areas for improvement.

Routine Medications:

Average TAT: 42 minutes and 6 seconds

Benchmark: 2 hours

The department demonstrates commendable efficiency in dispensing routine medications. The average TAT falls significantly below the established benchmark of 2 hours. This ensures timely administration of medication and minimizes disruptions to patient treatment schedules.

Discharge Medications:

Average TAT: 42 minutes and 26 seconds

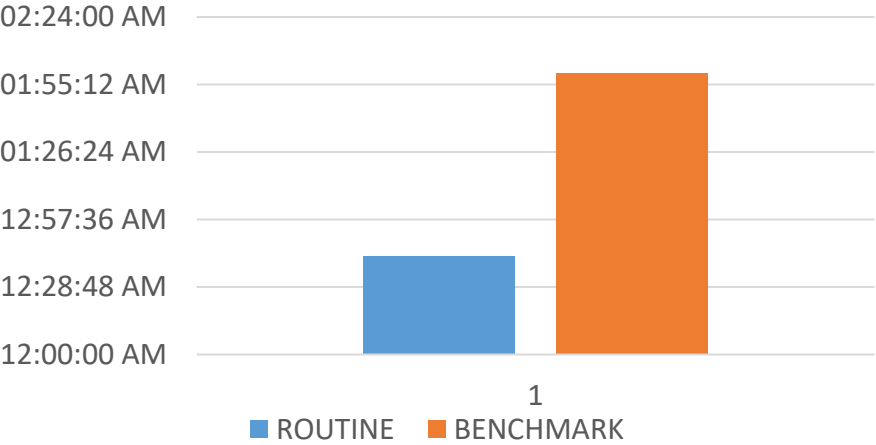
Benchmark: 30 minutes

	AVERAGE	BENCHMARK
ROUTINE	00:42:06	02:00:00
DISCHARGE	00:42:26	00:30:00

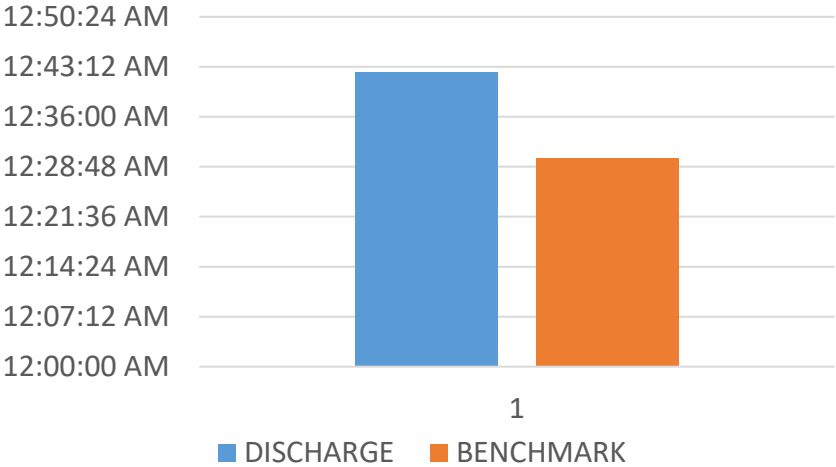
WEEKLY AVERAGES

WEEK	AVERAGE
1	00:42:30
2	00:49:42
3	00:41:10
4	00:51:50
5	00:43:16
6	00:44:49
7	00:28:50
8	00:55:38
9	00:31:08
10	00:52:00

ROUTINE



DISCHARGE



The data analysis indicates that discharge medications in the oncology department are not being dispensed within the desired timeframe. With an average turnaround time (TAT) of 42 minutes and 26 seconds, the department exceeds the benchmark of 30 minutes. This delay suggests inefficiencies in the discharge process, which could be due to several factors such as medication preparation, prescription verification, or logistical bottlenecks.

Addressing these issues is crucial to streamline the process and reduce waiting times for patients ready for discharge.

Timely dispensing of discharge medications is vital in the oncology department because it directly impacts patient care and satisfaction. Oncology patients often undergo rigorous treatments and are eager to return home as soon as possible.

Delays in medication can prolong their hospital stay, causing unnecessary stress and discomfort. Furthermore, efficient discharge processes ensure that patients receive their medications promptly, reducing the risk of complications and enhancing the continuity of care once they leave the hospital. Improving TAT for discharge medications is essential for maintaining high standards of patient care and operational efficiency.

DISCUSSIONS

- The significance of the findings for medication dispensing TAT and patient care are examined in the discussion section.
- It becomes clear that in order to improve patient safety, contentment, and overall quality of treatment, healthcare companies must give the optimization of pharmaceutical dispensing operations top priority.
- Approaches such as staff training, workflow redesign, technology integration, and collaboration between healthcare teams are explored as ways to address identified difficulties and improve response times.
- Impact on Patient Care: Ensuring medications are dispensed promptly to maintain treatment efficacy and reduce patient stress.
- Operational Efficiency: Identifying and addressing bottlenecks in the medication dispensing process to improve overall department efficiency.

CONCLUSION

- In conclusion, the speed at which medications are dispensed is a crucial component of the oncology department, as it directly affects patient satisfaction and outcomes. Healthcare organizations may enhance the safety and quality of medicine delivery, which will eventually improve overall patient care, by identifying and resolving barriers to effective dispensing processes.
- The key conclusions and revelations about hospital medication dispensing TAT in the oncology department are outlined in the project report. It highlights the significance of prompt access to medicine in oncology departments within hospitals and provides recommendations for future directions for both practice and research.
- 1. Time taken in medication dispensing was taking more than the time given in policy.
- 2. For routine medicines time was 2 hours and STAT, discharge, and new admission the time was 30 minutes.
- 3. But the processing was taking long delay due to which patient satisfaction as well as quality of care were being affected.
- In some cases, it was seen that the indents were not displayed in the pharmacy due to some errors in HIS.
- 4. Sometime HIS system faces lag in the system.
- To maintain the level of awareness among all the nurses, these are my suggestions:

SUGGESTION:

1. Implement Automated Systems: Use barcode scanning and to automatically capture and record batch numbers.
2. Software Integration: Integrate pharmacy management software with hospital information systems to streamline the entry of batch numbers and ensure compliance with EGHS and CGHS rules.
3. Optimize Workflow: Implement workflow optimization strategies such as task, where non-critical tasks are assigned to auxiliary staff, allowing more experienced staff to focus on delivery.
4. Digital Verification: Utilize digital verification systems where nursing staff can sign off on receipt of costly medicines using secure digital IDs or biometric verification.
5. Number of staff for medicine delivery should allocate floor wise .

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THANK
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