

Analyzing Inter-Modality Cross-Referral Trends and Dropouts in a Super Speciality Comprehensive Cancer C entre

Submitted By:

Dr. Shivani Mistry(PT)

1835

MBA-Hospital And Health Management(HOM)

Faculty Guide: Mr. S.P. Chattopadhyay





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01 Introduction

- Cancer is a major global health concern, with over **9.6 million deaths in 2018** (WHO).
- In India, more than **1.45 million new cases** are diagnosed annually, placing significant stress on tertiary care systems.
- Despite advances in diagnostics and treatment, India's cancer outcomes remain suboptimal due to fragmented services, delayed diagnosis, poor coordination and high out-of-pocket expenses
- While global oncology is moving towards **patient-centered care** – emphasizing shared decision-making and continuous support – its implementation in India remains uneven, especially in **resource-constrained or high-volume hospitals**.
- These gaps often result in **early disengagement**, where patients exit the system even before initiating treatment. This not only delays care but also impacts hospital efficiency and outcomes.



Current situation & problems



Situation

- Patients move through multiple departments (consultation → diagnosis → treatment) without structured guidance.
- System inefficiencies, lack of support, and high OPD load complicate continuity of care.

Problems Observed

- **Lack of Communication & Guidance** – Patients are often unaware of the next steps post-consultation.
- **Delays in Report Retrieval** – Diagnostic delays affect treatment planning.
- **No Proper Patient Navigation System** – Leads to missed follow-ups and care discontinuity.
- **OPD Overcrowding** – Long queues due to high patient load and inefficient scheduling.
- **Dropouts & Incomplete Referrals** – Many patients exit care early; internal referrals often remain untracked.

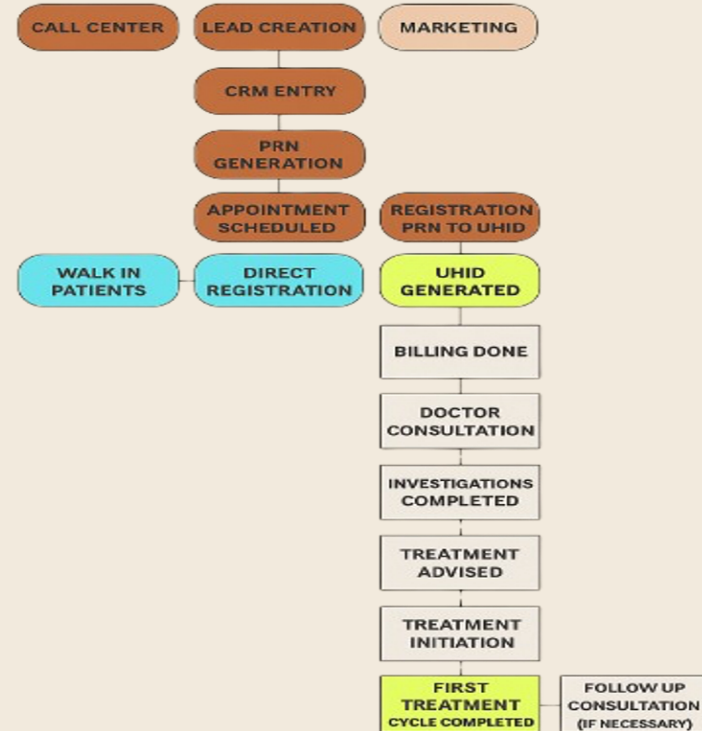
Aim & Patient Journey



Aim

To investigate the extent, timing, and reasons for patient dropout from consultation to treatment initiation, and to assess internal cross-referral completion between oncology departments

PATIENT JOURNEY



02 Study objectives



1

Quantify dropout percentages at each stage of cancer care.



2

Identify points of maximum patient attrition.



3

Analyze demographic/admin factors like age, gender, referral type.



4

Evaluate internal referral completion rates



5

Recommend improvements for continuity and departmental coordination



03 Literature review



1) Chatterjee A et al. (2019). *Referral Trends to Cancer Pain Clinics: Experience from a Tertiary Center.* Indian Journal of Palliative Care

Showed late and inconsistent referrals for pain management; literacy levels influenced patient access and early engagement.

2) Shand J, Stovold E, Cheema K (2024). *Attrition in Cancer Treatment: A Rapid Systematic Review.* BMJ Open

Wide variation in dropout reasons ranging from disease progression to social disadvantage—highlighting the need for standard definitions and targeted interventions.

3) Colangelo LA et al. (2016). *Predictors of Dropout After Head and Neck Surgery- A 12 month follow up study.* Cancer

Dropout rate was 75%; linked to advanced cancer stage, large resections, and medical complications.



04 Methodology



Study Design

- Retrospective observational study using a quantitative approach
- Based on real-time hospital CRM and HIS data

Study Setting

- 60-bed super speciality cancer hospital in Vadodara, Gujarat.

Study Duration

- Data collection: March 15 – May 15, 2025
- Follow-up cutoff: May 30, 2025

Sample Size

- 150 newly registered cancer patients

Sampling Method

- Purposive sampling

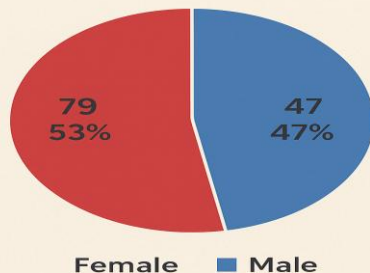
Data Collection

- Data was collected using hospital HMIS & CRM.

05 Results & Analysis

Gender Distribution

Total (150 Patients)

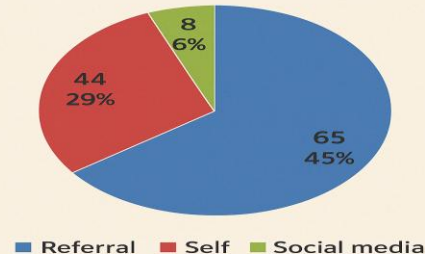


Gender	No. of Patients	Percent
Male	79	52.7%
Female	71	47.3%
Total	150	100%

The gender distribution is relatively balanced, with males comprising 52.7% and females 47.3%.

Referral Type

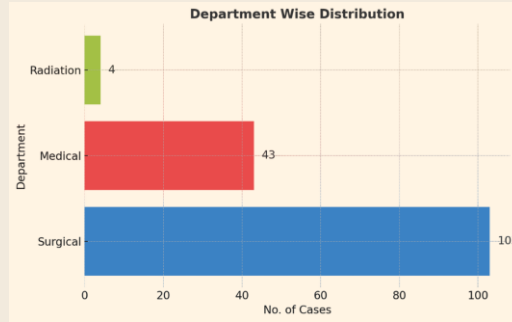
Referral Type



Source of Referral	No. of Patients	Percent
Healthcare Professionals	98	65.3%
Self-Referred	44	29.3%
Social Media	8	5.3%
Total	150	100%

Referrals were mostly from healthcare professionals, but self-referrals and digital sources are gaining importance.

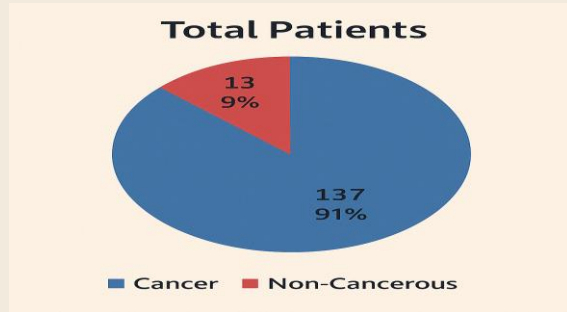
Department Wise Distribution



Department	No. of Patients	Percent
Surgical Oncology	103	68.7%
Medical Oncology	43	28.7%
Radiation Oncology	4	2.6%
Total	150	100

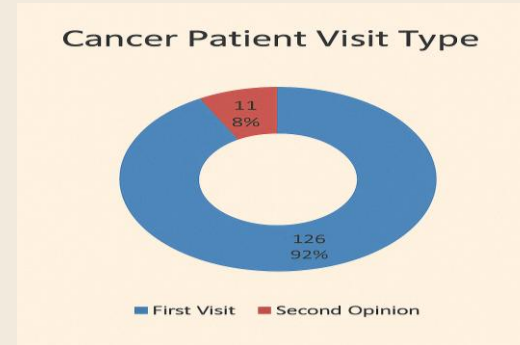
High load in surgical departments indicates that many patients require surgical evaluation or intervention as an initial modality, which is typical in solid tumour presentations.

Patient Diagnosis Distribution(n=150)



Diagnosis	No. of Patients	Percent
Cancer	137	91.3%
Non-Cancer	13	8.7%
Total	150	100%

Patient Visit Type Distribution(n=137)

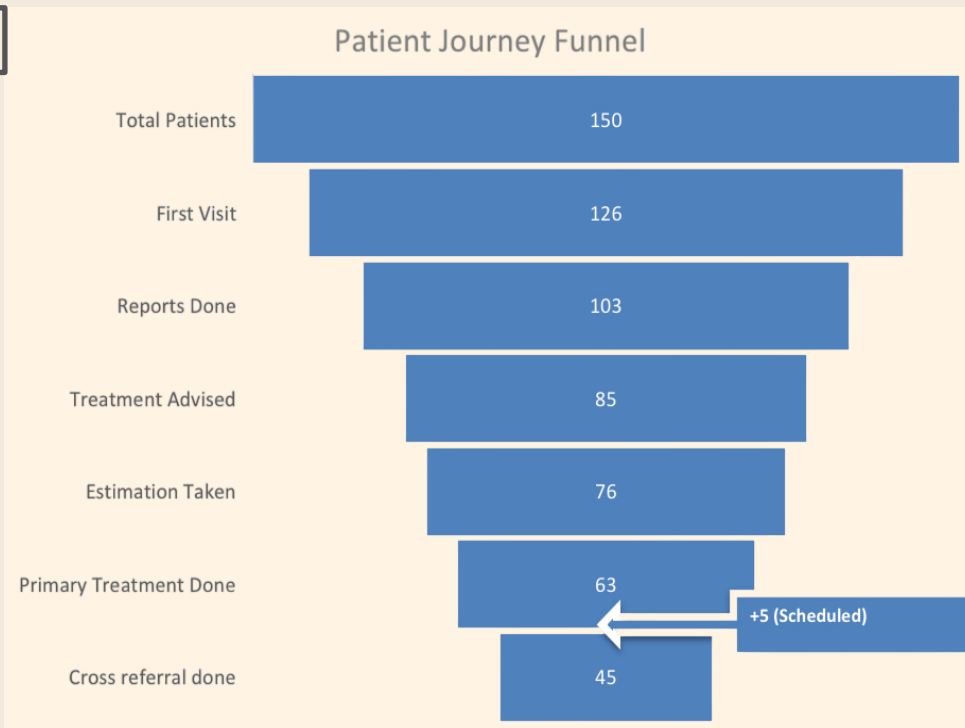


Type	Count	Percent
First Visit	126	92%
Second Opinion	11	8%

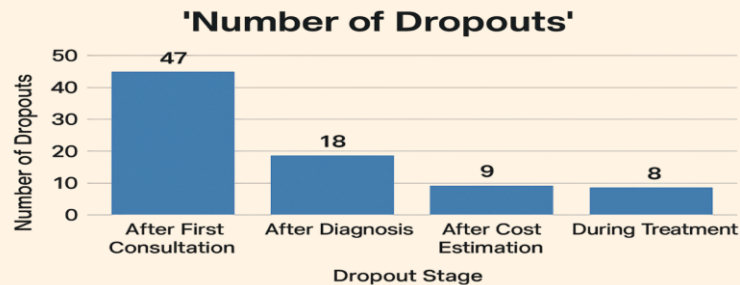
The low percentage of non-cancer cases (8.7%) further supports the hospital's focused role in oncology care. Out of 137 cancerous patients graph suggests that the hospital primarily serves as a first point of cancer care, rather than being a referral center for second opinions.

Patient Funnel & Dropout Analysis

A step-wise drop in patient engagement was observed across the care continuum. While **126** patients initiated the journey, only **63** completed the primary treatment cycle, resulting in a significant dropout of **54.7%**. Notably, there was a steep drop after the consultation and diagnostic phases, suggesting early-stage attrition.



Patient Dropouts (n=126)

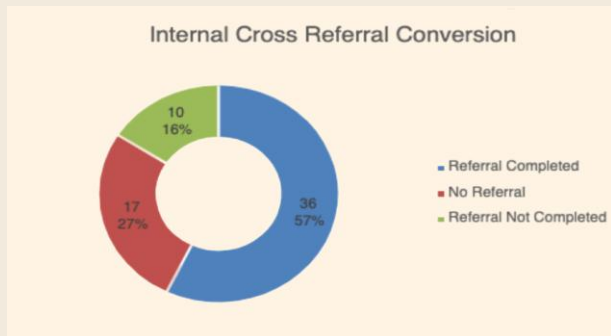


Dropout Stage	No. of Dropouts	Percentages (%)
After First Consultation	47	31.3%
After Diagnosis	18	12.0%
After Cost Estimation	9	6.0%
During Treatment	8	5.3%

Most dropouts occurred after the first consultation, with fewer patients disengaging at later stages. In total, 82 patients (54.7%) dropped out.



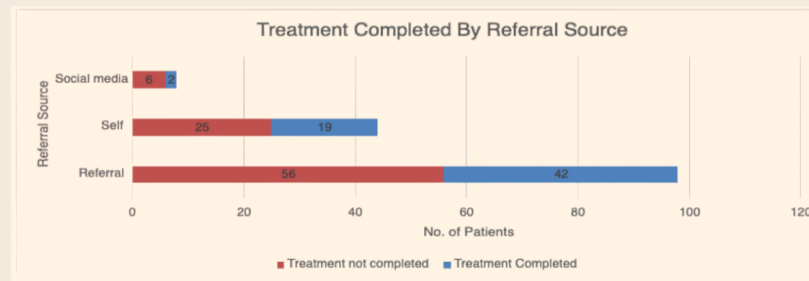
Internal Cross Referral Conversion (n=46)



Referral Status	No. of Patients
Completed Referral	36
Incomplete Referral	10
Total	46

Internal referral completion was moderate (72%). There's scope for strengthening transitions between departments.

Treatment Completion by Referral (n=150)



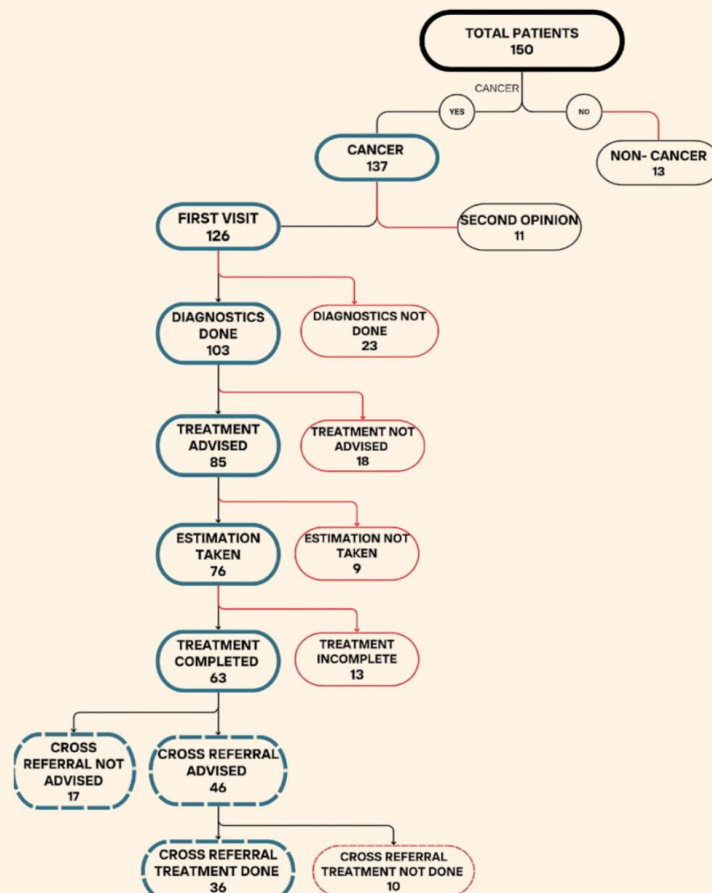
Referral Source	Completed	Dropped	Total
Healthcare Professionals	42	56	98
Self-Referred	19	25	44
Social Media	2	6	8
Total	63	87	150

No strong difference in retention between referral sources. Treatment completion may depend more on internal support and patient counselling.

Patient flowchart

Key Observations:

- Out of 150 patients, 137 (91.3%) were cancer cases: 126 first visits, 11 second opinions.
- Of 126 first-time visits, 103 proceeded to diagnostics; 23 dropped out post-consultation (31.3%).
- 18 diagnosed patients didn't take treatment advice.
- 76 received cost estimation; 63 completed primary treatment.
- 46 were advised cross-referral; only 36 followed through (22% dropout).
- Dropouts occurred progressively—after consultation, diagnosis, and cost—highlighting operational and psychological barriers to retention.





05 Discussion



- Chatterjee et al. (2018):** Found 38% of referrals were at the pre-treatment stage in a cancer pain clinic. *Our study aligns, showing highest dropout (31.3%) occurred after first consultation—highlighting early-stage care gaps.*
- Ahmad IA (2025):** Linked dropout to poor coordination and low health literacy. *Similarly, we observed that unclear guidance post-consultation led to early patient disengagement.*
- Kayal et al. (2017):** Reported late-stage dropout during chemotherapy. *Our study adds that early-stage dropout—before treatment even begins—is a significant but under-recognized issue.*
- Chakraborty & Dhar (2022):** Identified financial and social stress as major dropout factors. *We found dropout after cost estimation (6%), reinforcing the need for early financial counselling.*
- Colangelo et al. (2016):** Noted incomplete follow-up after surgery. *Our findings show 72% internal referral completion, but a 28% gap remains—impacting care continuity post-treatment initiation.*



06 Conclusion



- Over **54.7% of patients dropped out** at various stages, with the highest attrition (31.3%) occurring after the first consultation.
- Key dropout points: after diagnosis (12%) and post-cost estimation (6%), indicating early disengagement.
- **Surgical oncology** handled most cases (68.7%); majority of referrals came from healthcare professionals.
- **Internal cross-referral completion was 72%**, but a 28% gap signals coordination issues.
- Referral source showed a statistically significant link to treatment completion, highlighting its role in retention.
- The study reveals both **operational inefficiencies** and **patient-side barriers** affecting care continuity.
- Addressing these issues is essential to improve **patient retention, treatment adherence, and oncology outcomes**



06 Recommendations



Implement Patient Navigation

Assign navigators to guide patients, provide reminders, and reduce dropouts.

Provide Financial Support

Offer early cost estimates and connect patients to aid or insurance.

Track Referrals Digitally

Set up systems to monitor internal referrals with alerts and follow-ups.

Conduct Further Research

Explore patient perspectives through qualitative studies for deeper insights.

Improve Communication

Offer clear, culturally appropriate education and counseling during early visits.

Streamline Workflow

Use data to optimize scheduling for diagnostics, billing, and treatment.



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Thank
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