Outreach Customer Relation Management to Improve Patient Footfall, Retention and Measure Marketing Performance

By

Abhishree Agrawal

Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital and Health Management

Academic year, 2018-2020

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

Outreach Customer Relation Management to Improve Patient Footfall, Retention and Measure Marketing Performance

By

Abhishree Agrawal

Dissertation submitted in partial fulfillment of award of

MBA Hospital and Health Management

Academic year, 2018-2020

Medanta The Medicity Global Health Pvt Ltd, Gurgaon, Haryana

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

TO WHOMSOEVER MAY CONCERN

This is to certify that **Ms. Abhishree Agrawal**, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at **Medanta, The Medicity Hospital, Gurugram**, from **06.02.2020 to 09.05.2020**

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical. The Internship is in fulfillment of the course requirements. I wish her all success in all her future endeavors.

Dean
Academics and Student Affairs
The IIHMR University, Jaipur

Dr. J.P. Singh
Associate Professor
The IIHMR University, Jaipur

Global Health
Private Ltd.

Date: 13 Jun' 2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Abhishree Agrawal** has completed her 3 months internship in the department of **Administration, CEO Office** from **6th Feb' 2020** to **9th May 2020** with **Global Health Private Ltd. (GHPL) Medanta – The Medicity.**

Study Title: "Outreach CRM to improve patient footfall, retention and measure marketing effectiveness".
Supervisor Name: Ms. Ashima Khurana

We wish her all the best for her future endeavors.

For **GLOBAL HEALTH PVT LTD**

Anju Verma

ANJU VERMA
GENERAL MANAGER - HR

Regd. Office: E-18, Defence Colony, New Delhi 110024, Ph No.011- 44114411

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"Outreach customer relation management to improve patient footfall, retention and measure marketing performance"** and submitted by **Ms. Abhishree Agrawal**, Enrolment No. **0704** under the supervision of Dr. J.P. Singh, for award of MBA in Hospital and Health Management in The IIHMR University carried out during the period from February'20 to May'20 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Abhishree Agrawal

ACKNOWLEDGEMENT

My deepest appreciation and gratitude go to my supervisor **Ms. Ashima Khurana,** Senior Manager, Corporate Office, Medanta, The Medicity, Gurugram, for her great support and encouragement; I truly thank her for the time and effort she has dedicated for the benefit of this study.

I extend my sincere gratitude to my mentor **Dr. J.P. Singh,** Associate Professor, IIHMR University, Jaipur, for guiding me through this dissertation and for taking the time to be my sounding board.

I would like to especially thank the entire management team of the Hospital for making this study meaningful and for accommodating me in their busy schedules. I am grateful to the entire Staff of the Hospital for welcoming me to conduct my project and for providing me substantial resources for the same.

And last but not the least, I thank my family and friends for their patience and continuous encouragement and unwavering support.

ABSTRACT

Title: Outreach customer relation management to improve patient footfall, retention and measure marketing performance

Introduction: Outreach OPD is one of the marketing methods wherein the hospital sends their doctors to provide consultations to targeted communities of tier 2 and 3 cities in the region of North and Northeast India. Recently, an approach that has helped hospitals to maximize benefits from marketing activities is Customer Relation Management. It is a way to manage relations with prospective and current customers and is known to help in synchronizing marketing and sales activities leading to increased customer acquisition, retention, and satisfaction. Irrespective of the marketing method one follows, it's important to measure the outcome of those methods.

Aim: It is to design and implement CRM process to build and maintain relation with outreach patients, with an intention of improving patient footfall, retention, and measure marketing performance of Out-reach OPD activity.

Methodology: An operations research, interventional study was conducted in a multi super specialty hospital in Gurugram for a period of three months (06th Feb'19 to 9th May'20). The study population were outreach patients who have visited the OPD centres during the study period. The study was conducted in the five phases : Assessing current scenario, Planning Intervention, Implementation, Monitoring and Evaluation. Primary data was collected by semi-structured interviews whereas secondary data was collected from HMIS. The intervention was to implement the CRM process in all the OPD centres, followed by monitoring and evaluating its effectiveness. It was performed in all the OPD centres and all the patients fulfilling inclusion criteria. KPIs were also measured.

Results: The outreach patient database of 498 unique patients was created. Post intervention IP and OP conversions were found to be 1.6% and 2.8%. It also led to 9% of the outreach patients availing telemedicine services. 66% of the patients had rated their outreach experience as good or excellent post intervention. The prescription scanning compliance was 100% in 5 out of the 9 Outreach regions and around 33.3% of the patients were tracked and followed up. !!% of the patients were willing to visit next outreach OPD. Maximum average patient footfall was reported in the OPDs of Nephrology, Neurology and Neurosurgery, and the least in Head and Neck oncology. The lead value to cost per lead ratio was found to be 3.23:1 whereas the ROI was 2.2. Customer acquisition cost was also determined.

Conclusion: A customer relationship management system was successfully developed which led to database creation and lead management. Post intervention conversion percentages and patient experience has been improved significantly. A higher ROI and lead value indicate towards the success of the marketing activity and justifies the marketing costs borne by the hospital. Overall, introduction of the new process has allowed us to create visibility into success of marketing activities and its strategies towards patient experience & retention. Despite of few limitations, the study provides a direction for the hospital managers and researchers to further work upon.

Table of Contents

List of Table

List of Figures

List of Abbreviations

CRM: Customer Relation Management

HMIS: Hospital Management Information System

IPD: Inpatient Department

KPI: Key Performance Indicators

MT: Medical Transcription

OCC: Operations Control Centre

OPD: Out-Patient Department

ROI: Return on Investment

1 INTRODUCTION

The changing dynamics of the health industry including increased competition and adoption of new technologies point to the need for increased marketing involvement. Healthcare industry has unique services to offer, therefore philosophy and marketing techniques of other fields are not applicable here. The concepts of healthcare marketing are an amalgam of social and traditional marketing. It helps healthcare professionals to create, communicate, and provide value to their target market.

Marketing methods and tools have to be formulated based on carefully thought strategies. The success of marketing efforts depends on how well the healthcare provider understands the needs and expectations of key decision makers and are able to satisfy them. At the same time, consumers have a myriad of providers to choose from, because of which the providers have to find effective ways to reach their target customers and engage with them. The strategy needs to be patient oriented, focussing more on building a sustainable relationship with patients rather than ensuring a one-time transaction. The objective is to create high level of customer satisfaction which would further improve patient retention.[8]

This is why concept of healthcare customer relationship management have grown many folds. CRM systems make the process of acquiring, developing and maintaining relationship with customers more efficient and effective, leading to improved services for patients, cost reduction and patient retention.[7,9]

Hospitals these days are focussing on variety of marketing methods including market research, targeted approach, advertising, CRM and sales management *(Figure 1.1)*. CRM helps in generating customer knowledge, database construction and campaign managements. It helps in synchronising marketing and sales activities and has diverse functions, making it an integral part of all such activities.

The overall aim of deploying marketing methods is to increase patient footfall in the hospital and also to be able to reach maximum people to improve brand awareness and recall.

Figure 1.1: Examples of hospital's marketing activities

Outreach OPD is one of these marketing methods where the health providers organize medical consultations for targeted communities of underserved areas. Unlike health camps, these OPDs are of a particular specialty and chargeable. Such an activity benefits both the community and the providers. Patients are able to receive medical opinion from specialists despite of their geographical and financial limitations, whereas hospitals can promote their brand in the given area and improve patient footfall in the hospital by identifying those outreach patients who need advanced treatment & care and advising them to visit the hospital for the same.[11]

Irrespective of the marketing method one follows, it's important to measure the outcome of those methods. Without being able to evaluate the outcomes of marketing initiatives, it will be difficult to understand their impact and effectiveness. The performance indicators can be designed for any such marketing activity and can be continuously monitored and improved.[4]

1.1. BACKGROUND

The hospital has been conducting outreach OPDs for many years now. A descriptive cross-sectional study was conducted from 06th Feb'20 to 10th Feb'20 in the hospital to calculate the Outreach OPD to IPD conversion percentages and determine the reasons for the same in order to find effective ways of improving conversion rates from Outreach OPDs. An analysis of secondary data on outreach patients retrieved from hospital's management information system revealed that the conversion percentages for the month of Oct'19, Nov'19, Dec'19 and Jan'20 were 0.47%, 0.17%, 0.38% and 0.51% respectively. The continuous less than ideal conversion rates indicated towards the need of improvement in the marketing activity. Further analysis of the available records

showed that the outreach patient records were insufficient which led to possibility of inaccuracy in measurement of conversion rates.

On studying, it was identified that the outreach patients were tracked through their mobile numbers from the records and not a unique identification number because of which not all the converted patients were identified. To find out the other reasons for low conversions, a patient feedback questionnaire was developed and floated to 177 outreach patients; sample derived from the outreach patient population. The response rate was 84%. It was found that majority of the patients preferred visiting hospital's outreach OPD because of the doctor's expertise, unavailability of advanced care in their cities, and hospital's brand name. It was also seen that 79% of the patients had come to the OPD for the first time and remaining 21% of them have been to the outreach OPDs before. Majority of the respondents have rated their outreach experience to be average, which indicates the scope of improvement in the services. Around 33% of the respondents didn't proceed with their further treatment in the hospital and they stated - inability to contact hospital, inability to receive desired appointment and financial issues as top three reasons for the same. Other reasons were - distance related issues, getting treated from other hospital etc. Respondents also highlighted the fact that doctors' visits happen once in a month to their city, that leads to long waiting time which isn't feasible for many of them. The entire study revealed that to improve conversions and to be able to carefully measure them a system for tracking and following outreach patients should be deployed. This will help in contacting the patients and solving their problems, for example patients can be helped to fix appointments etc.

This study is taken as the basis for the current study where an attempt is made to design and implement CRM process to build and maintain relation with outreach patients, with an intention of improving patient footfall, experience and retention. The process will also allow us to record and track outreach patient related information, which will be useful to monitor and eventually evaluate the performance of Out-reach OPD activity and formulate strategies accordingly.

1.2. RATIONALE

Measurement of marketing performances is an integral function of any healthcare institution, as they help senior professionals to analyse and evaluate whether the marketing goals are being met or not.

The hospital has been conducting Outreach OPDs as a marketing activity for many years now and thus measuring its effectiveness is significant to decide if the program is profitable or it needs improvement. If the marketing activity needs improvement, suitable interventions should be identified and implemented to increase marketing effectiveness.

Measuring the performance will help the hospital to understand success of outreach program (Volumetric, Financial, Regional, etc) over time, which will help in steering marketing efforts based on fine-tuned strategies. This study can further help understand impact of such programs on Brand awareness and recall.

It will also enable the management to justify the expenditures made on outreach marketing activity. Determining conversion rates, ROIs etc will help identify areas of improvement leading to formulation of better strategies and optimisation of resources. All of which is crucial to increase patient footfall, revenue and decrease costs.

1.3. PROBLEM STATEMENT

- No tracking and follow up of outreach OPD patients.
- No monitoring and evaluation of performance of Outreach OPD activity.

1.4. RESEARCH QUESTION

1. How can we track Outreach OPD patients and build relation with them to improve patient footfall and retention?
2. What is the effectiveness of outreach OPD marketing activity?

1.5. OBJECTIVES

1. To design and implement CRM process for Outreach patients.
2. To assess the effectiveness of CRM process.
3. To determine the effectiveness of outreach OPD marketing activity.

2 LITERATURE REVIEW

Sundaram R (2018) and Gaede B et al (2011) have explained in their work that Outreach OPD programs involve establishing direct connect with the patients by providing medical consultations to them at the local level away from where the hospital is established. It is a way to increase availability and utilization of services through direct interaction with the target population of underserved areas. This is done by tying up with a local practitioner in that area who provides a centre to conduct OPD.

The organisation's motive is both altruistic and self-serving, as it benefits the community and the provider. Due to concentrated focus of corporate hospitals on tier 1 cities, major chunk of the Indian population in tier 2 &3 cities struggles with healthcare inaccessibility and unavailability. Outreach OPD are a way of bridging this gap despite of geographical and financial limitations. It allows patients to get consultations from experienced doctors which are not easily available to them. Outreach OPD helps early detection of diseases avoiding fatal outcomes caused from delays, provides health awareness, second opinions, treatment opportunities and accessibility to specialised care. This is also a marketing opportunity for healthcare providers as it enables them to scale up their reach, build their credibility and improve brand's visibility. Outreach efforts will influence perception of your customers. With more and more community engagement, the patients personally feel familiar with the brand, improving brand's awareness and patient satisfaction. Patients who need to avail specialised health services can then be referred to the tertiary hospital from here. This works as a demand generation strategy to increase patient footfall. Word of mouth advertising, improving health outcomes etc can help create goodwill in community. Providers can also understand the barriers to providing services to these communities and help improve the same.

Like in any other marketing initiative, an essential element of outreach OPD program is to have a good monitoring and evaluation system. It is important to monitor the progress and performance of the activity to measure its success over time. It allows professionals to understand what works and what doesn't to further refine the plan and strategies.

Vaish A et al (2016) through their review article have suggested that survival of private hospitals in this competitive era is based on their ability to respond to the needs and expectations of the patients, which is done by maintaining the quality of the services provided and maintaining relationships with customers through CRM to provide them enhanced experience and improve customer retention and loyalty. In this article CRM is defined as an attempt to understand and help the customers of a company through the combination of processes, people and technology. It synchronises business processes like sales, marketing and customer service, delivering value to customers. The process of acquiring, developing and maintaining relationships with patients becomes effective, and efficient through it.

Customer Relationship Management and Healthcare Services (2016). CRM helps in creating values for customers and supports them before, during and after the sale of the product or service. It is a process through which information related to customers, sales, marketing effectiveness, responsiveness etc can be collected. CRM is a means of understanding potential and existing customer needs, acquiring new patients, retaining existing ones, and creating loyal customer base, through interdepartmental co-ordination, which leads to increased profitability for organisations. The importance of CRM in healthcare lies in the fact that it enables an organisation to maintain and process customer database, select customers and build relationships, develop strategies to acquire new customers, increase customer satisfaction and sales, manage marketing activities and also provide market knowledge.

Kapture Healthcare (2019) in an article on role of CRM in healthcare services have discussed that Healthcare CRM can also be known as Patient Relationship Management and has grown many folds as it helps hospitals to sustain in this competitive environment. It aids the organisation to meet needs of the patients, improve continuity of care, cost optimisation and utilise the patient information effectively. Because hospitals are shifting from mass advertising, they are now focusing on target marketing through development of customer outreach databases. Though CRM has many benefits, implementation of CRM systems can help in collecting and aggregating patient data and related details, analyse it, and use it to track the effectiveness of marketing campaigns, engage with patients through relevant channels and messages, and provide them support as per their needs creating customer delight and loyalty.

Holmes K(2019) published an article where it said that CRM helps to proactively pursue prospective customers, by identifying qualified leads and engaging with them in a one to

one basis. Improved customer experiences can be witnessed by recording patient data, following up with them and providing them real time information. The management system can capture vital information, like engagement levels and conversion data, which when combined with investments, can be used to prioritize spending and improve the performance of the marketing activity of interest.

Chhangani A.(2013) concluded in the research that implementation of CRM is essential in hospitals as it is statistically shown to increase patient's satisfaction levels and loyalty, identify valuable leads, provide accurate information and make the entire transaction process faster. The study also mentions that it has been reviewed in past works that CRM helps organisations to acquire new customers through contact management and direct marketing.

Gao Y. (2010) summarises in his study the key concepts in marketing, by defining terms like marketing effectiveness, marketing efficiency, marketing performance, marketing metrics and the importance of measuring marketing performance. It explains that marketing performance is a multidimensional process that includes dimensions of effectiveness, efficiency, and adaptability of an organization's marketing activities with regard to market related goals like growth, revenue, profits etc. Marketing effectiveness is defined as the comparison of performance to the goals formulated from the market strategy whereas marketing efficiency is comparing output from marketing to input from of marketing. The study also discusses about the chain of market productivity where it explains how the tactical actions taken by an organization influence customers attitude towards the brand which in turn influences the organization's financial performance. And to measure marketing performance, financial and non-financial measures of output can be used like Revenue, ROI, profit, cash flow and Customer satisfaction, loyalty, brand equity etc respectively. Metrics are used to measure these indicators. A framework is proposed in the study to justify the marketing expenditure by defining and measuring marketing performance as it can demonstrate the contribution of marketing activities in organisation's value. The framework links financial and non-financial measures to the performance of the organization.

Boundless Marketing(2020) published an article where it discussed the how measurement of marketing performances is an integral function of any healthcare

institution, as they help the senior professionals to analyse and evaluate whether the marketing goals are being met or not. Brands can determine which area of marketing mix needs modification, assess market strengths and weaknesses, increase their competitive intelligence and also identify if the stakeholder's needs are being met. Hospital uses different key performance indicators (KPIs) or metrics to evaluate the performance of marketing activities being conducted as well as to see their degree of impact on company's bottom line and overall image. Comparing these metrics of different marketing activities can help prioritize the ones in which the spending contributes more to profit. By regularly generating marketing performance data, companies can build a knowledge of current base which in turn would help them take decisions based on market conditions and optimize investments and use of other resources. It is important to keep consistency in data collection, monitoring and evaluation for long term benefits. The value of healthcare marketing is often intangible but recently various means have been identified to understand the output of marketing efforts in quantitative terms, some of these financial indicators are ROMI, ROI, ROMO etc.

Ambler T (2000) in his study proposed the introduction of marketing performance measure systems and explains why organisations should define internal and external market metrics and regularly review them. Authors define metric as a quantitative performance measure that is reviewed by top management to understand how well a particular process, project, unit or an institution is doing. A metric has to be always precise, well defined, and consistent. It suggests that leaders should review three sets of information: External market metrics which is expressed in short term financial and non-financial measures, Internal market metrics, concerned about employee commitment and alignment and the process of gathering both of above metrics and reviewing it.

This research shows that metrics are based on the nature of business or process whose performance has to be measured, so that they can guide the formulation of strategies and led to achievement of goals specific to that organization. Most commonly used external market metrics are consumer satisfaction, awareness, level of dissatisfaction, total number of customers etc. Financial metrics like Return on investments (ROI) or Return on marketing investments (ROMI) help brands in allocating resources wisely.

Solcansky M et al (2010) have highlighted the need for measuring effectiveness and performance of marketing activities by managers in their study as it helps them to

optimise their resource allocation. Evaluation of marketing activities quantitatively, will help understand the progress and growth. Return on investment index is of the most sought-after financial indicator for measuring marketing performance and is expressed as the percentage of net profit and costs for an activity.

Following are few KPIs identified from literature and their operational definition, relevant for this study:

Metric	Definition	Formula
Reach	Reach measures that to how many people your brand and its content are getting in front of. A stronger reach of a marketing activity will indicate stronger brand awareness.	=Number of patients showing up for consultations in outreach OPD
Lead Generated	Tells about the number of potential customers who can be reached by sales team for conversions.	=Number of outreach patients who can be reached by the sales team for conversions
Cost Per Lead	Shows how much marketing efforts are working against the money spent in the assessment period.	=Total cost to acquire leads/ Total leads acquired
Lead Value	Tells how valuable leads are and how much money was spent to receive a certain profit.	=Total sales value/ Total leads
Conversion Rate	Can differ based on context in industry. In this scenario, outreach OPD to IPD conversions would be percentage of those patients who got admitted in hospital from those who were reached out. It directly effects the ROI.	=Number of outreach OPD patients who became inpatient/Total number of patients who were reached
Customer Acquisition Cost	The cost spent on acquiring customers i.e. to make them buy a product or service.	=Total Sales Value / Number of customers acquired
Return on Investment	Can be expressed as percentage or ratio and is obtained by dividing the net profit received on a certain investment.	=Revenue - Investment/Investment

Table 2.1: Key performance indicators and their definitions [1,10]

3. METHODOLOGY

Research Type: Operations Research

Study Design: Interventional Study

Research Method: Mixed method (Qualitative and Quantitative)

Study Setting: The study is conducted in Medanta, The Medicity Gurugram. The Outreach OPDs are done in the regions of North and North-east India.

Study Period: 3 months

Study Population: Patients who visit outreach OPDs to receive medical consultations

The study was conducted in the following five phases, and four other teams of hospital's management, namely, Marketing team, IT team, OCC team and MT team have contributed at different steps.

1. Assessing current scenario
2. Planning Intervention
3. Implementation
4. Monitoring
5. Evaluation

A timeline for the same was defined *(Table 3.1).*

Phases of Project	**Project Timeline (in weeks)**							
	1	2	3	4	5	6	7	8
Assessing current scenario								
Planning Intervention								
Implementation								
Monitoring								
Evaluation								

Table 3.1: Timeline for process designing and implementation

a. Assessing current scenario

The present situation of Outreach OPD marketing activity was understood by interviewing marketing manager and field executives. Secondary data was retrieved from the hospital's MIS.

The hospital of interest has been conducting outreach OPDs in more than 35+ cities of North and North East India. Outreach OPD is a paid OPD of specific speciality, unlike health camps which are generally free camps. The location and speciality of the OPD to be conducted is decided based on three major factors:

- prevalence of the disease in that area,
- requests coming from influential doctors of that area, and
- connection of hospital's doctor with that area/region.

Once this is fixed, the OPD centre, date and timing is decided depending upon the availability of doctor and the centre. In a region, for a specialty, doctor visit happens once in a month, creating an inconsistency in patient care. A monthly roaster of all the Outreach OPDs to be conducted is prepared. Doctors visit the centre on the decided date and attend patients for a fixed duration, after which they return back to the hospital. Marketing field executives are present at the centres to do the management work. Patients are registered manually, and their mobile numbers are taken, following which they can consult with the doctor *(Figure 3.1)*.

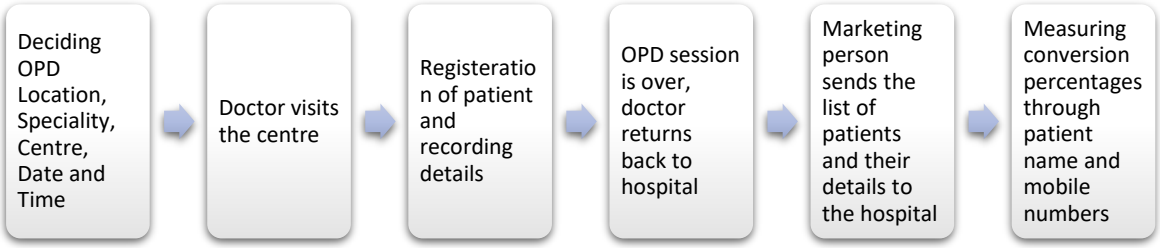

Figure 3.1: Steps of Outreach OPD

Once the OPD is over, the patient isn't followed up and has to directly contact the hospital or wait for another OPD session in case he/she has any query. To calculate conversions, every month the list of outreach patients is compared against the IPD patients through their mobile numbers.

As mentioned in the study conducted (mentioned in background), it was found that the conversion percentages for the month of Oct'19, Nov'19, Dec'19 and Jan'20 were 0.47%, 0.17%, 0.38% and 0.51% respectively. Further analysis of the available records showed that the outreach patient records were insufficient which led to possibility of inaccuracy in measurement of conversion rates.

b. Planning Intervention

In this study, the intervention is to setup a CRM process. Based on the reasons of low outreach conversion rates that were determined through a cross sectional study (mentioned in background) and the findings made in first phase, following were the identified requirements that a CRM process should fulfil:

- *Having complete outreach patient records*
- *Being able to track those patients*
- *Identifying patients who need assistance*
- *Offering them assistance*
- *Monitoring and measuring the success of the process*

Thus, the CRM process can be divided into three parts: Patient Tracking, Patient Follow up, & Continuous Monitoring. App development, Patient Categorization were two pre-requisites for designing the complete process.

The assistance that were to be offered to outreach patients are:

S. No.	Offerings	Example
1	***Priority appointment through telemedicine***	Patient is asked to undergo certain diagnostics. He/ She can be followed up to arrange tele consult and coordinate results for the same.
2	***Coordination for admission/ bill estimate/ other patient queries.***	As per the doctor's recommendation, patient agrees to get admitted. He/ She can be helped with scheduling dates for procedure, admission process etc.
3	***Priority appointment in-person at Medanta***	In case of another in-person consultation requirement, patient can be assisted with priority appointment scheduling.
4	***Resolving distance, financial, or other issues***	Patient cannot afford to pay the full bill as per the estimate. He / She can be introduced to hospital's Finance Help Desk.

Table 3.2: List of offerings to the patient under CRM assistance

The list of offerings is not exhaustive. Patients can be given assistance as per their needs and requirement if it's within the scope of services.

App Development

For being able to do patient registration and store relevant information in the HIS from the outreach centre (which is far away) an application was created. With the help from IT team a new feature for recording outreach patient details were created into the existing hospital apps: ***Executive App and EMR App.*** The field executives can login into these apps to do following tasks- registration, finding an existing patient *(Figure 3.2)*, new visit generation (episode) creation, uploading prescriptions etc *(Figure 3.3)*.

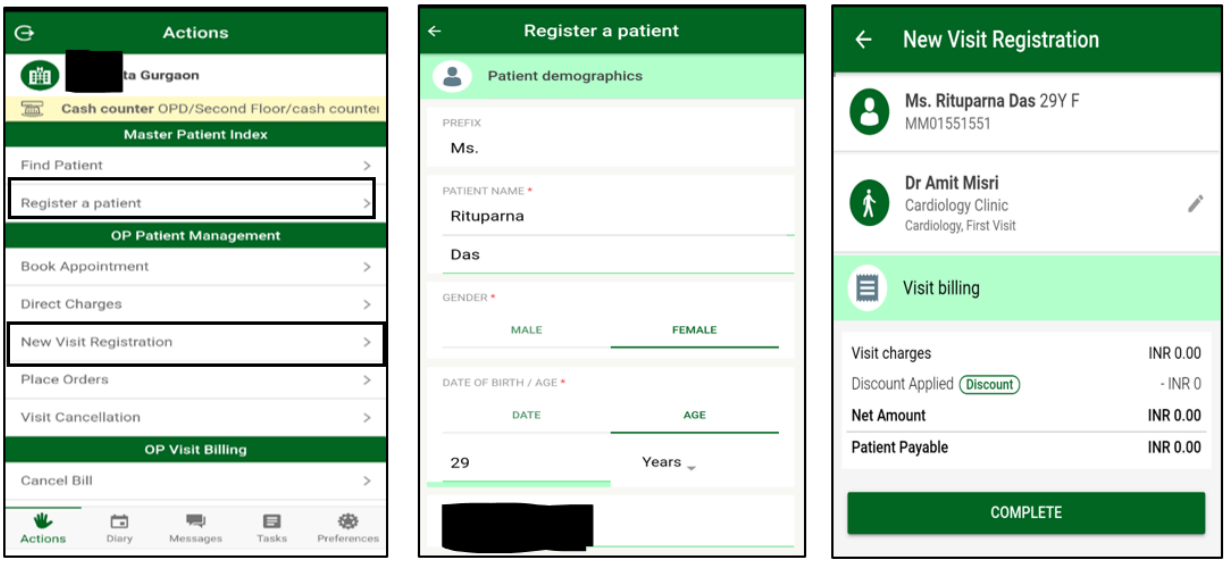

Figure 3.2: Outlook of Hospital's Executive Application

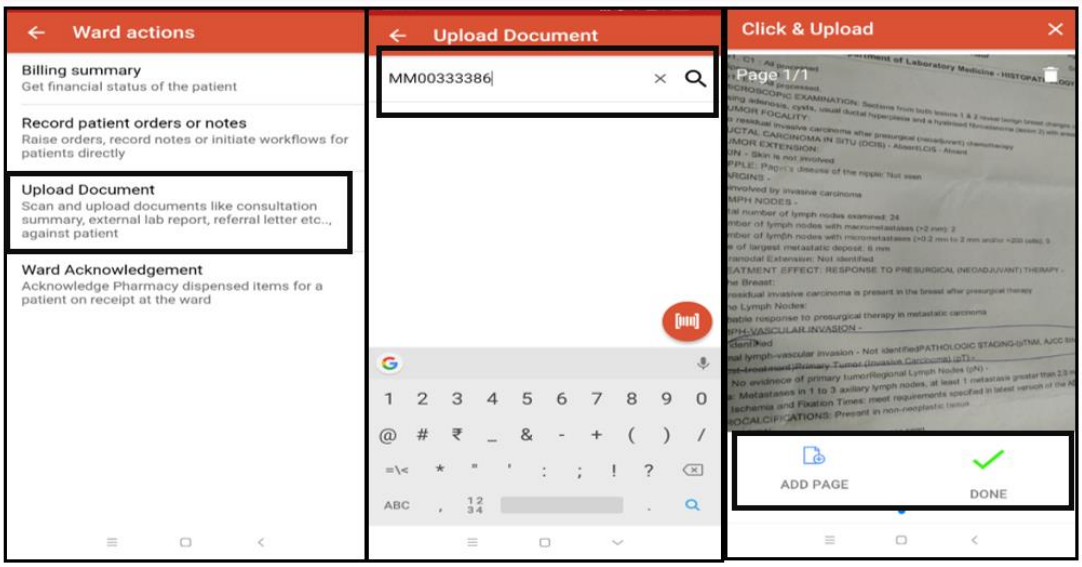

Figure 3.3: Examples of screens of Hospital's EMR Application

Final Process

Every month, Outreach OPD plan is created and shared with the concerned department heads, doctors, and marketing executives. On the OPD day, marketing executive registers the outreach patient through Hospital's Executive App, following which a unique patient ID is generated. For an old patient, his/her existing UHID is used for the same. After this, a zero bill or episode is created for every patient receiving consultation against their UHIDs, which is also stored in the HIS through Executive App. After the consultation, prescription of each patient is scanned by the marketing executive and uploaded in the HIS through EMR App.

This data remains stored in the HIS and can be retrieved whenever needed. Once the OPD session is over, MT team reads the prescription and categorises the leads into 5 categories: IP/Surgery advised, Cross Referral advised, Medical Management/Follow up, Laboratory Investigation advised, and Radiological Investigation advised. Other details like patient's disease, type of tests done, advice given, treating doctor's name etc is also filled in the database as per the defined format (Format attached in Annexure 7.1).

The updated list after every session is further sent to OCC team for follow up. All the leads are then contacted and marked as per the categories *(Figure 3.4).*

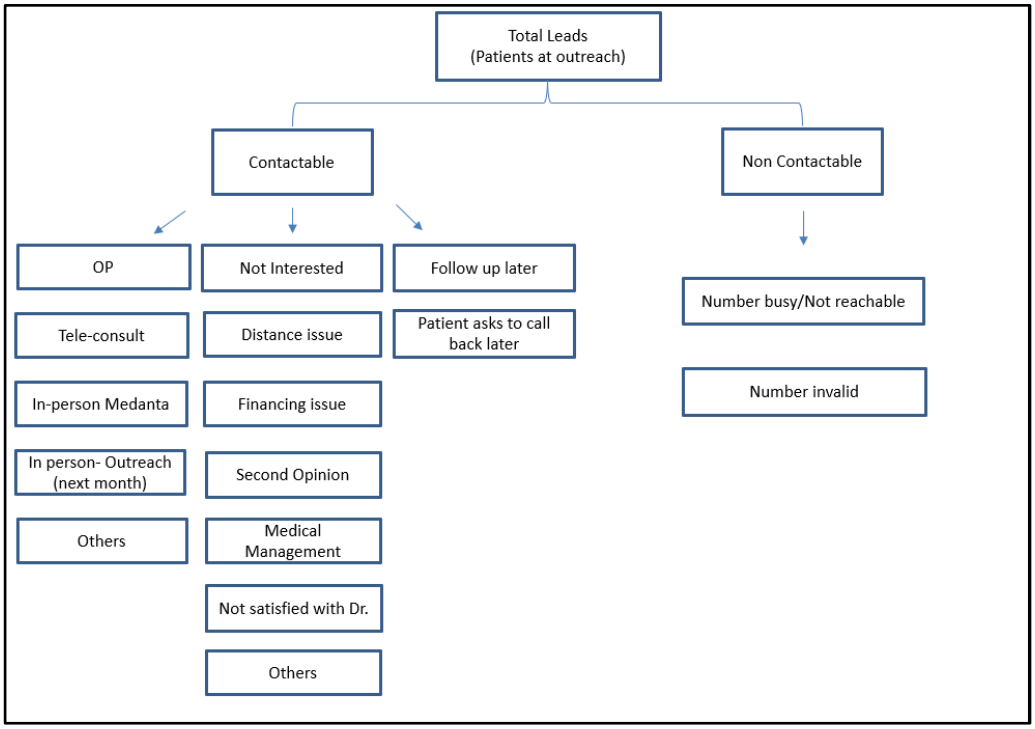

Figure 3.4: Categorization of Leads

The agent checks if any of the patients from the outreach list have already been admitted to the hospital. If yes, the admission date is confirmed from the portal and entered in the list. Further, the medical status of the remaining patients is checked and those who have been advised admission or to get critical diagnostic tests done are contacted. A telephonic conversation is done to assist the patients if they want to get admitted or want to come for OPD consultation. The follow up progress is updated in the list until the case is closed.

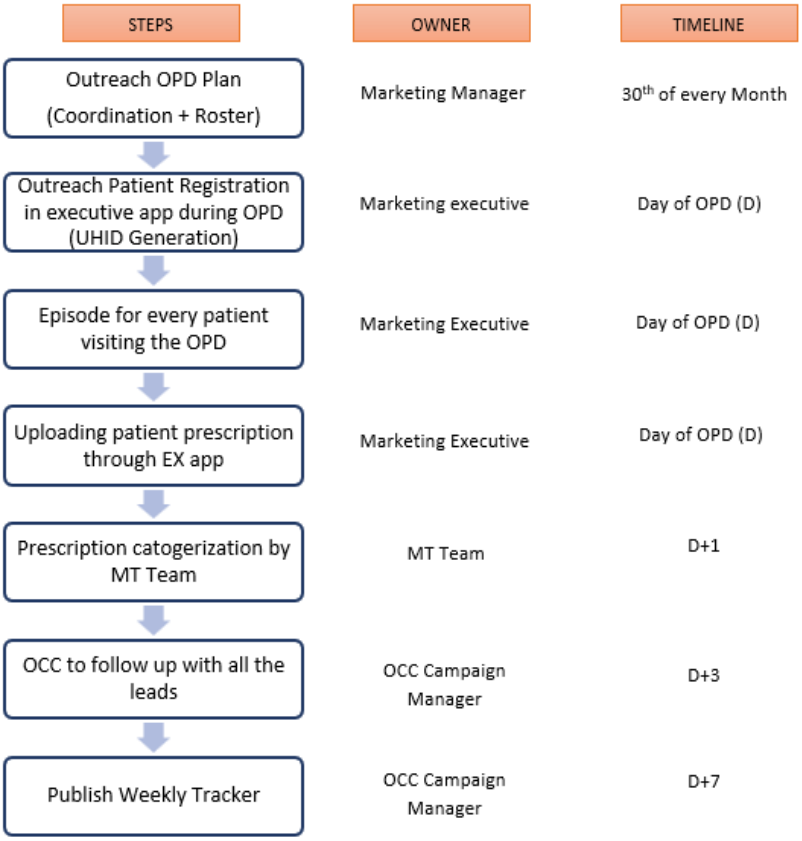

Figure 3.5: Process for CRM (includes step wise owners and timelines)

c. Implementation:

The marketing executives who would be in the field and will have to do patient registration, episode creation and upload prescriptions, were trained to use the executive and EMR apps. User manual was created, and online trainings were done in 3 groups. They were guided step by step to use the app and were given SOP for the same. Following the training sessions, a pilot study was done to smoothly implement the project.

The CRM process was launched and made mandatory for all Outreach OPDs in all the cities, effective from 1^{at} March 2020.

d. Monitoring:

Following metrics were selected to be constantly measured:

- *Compliance % to upload patient prescriptions*
- *Outreach OP to IP conversion*
- *Outreach OP to OPD conversion*
- *Outreach OP to Tele-consult conversion*
- *% of queries responded (through calls)*
- *% of people "Not interested"*

- *% of patients with excellent experience*

An interactive dashboard *(Figure 3.6)* was designed to continuously monitor the progress of the CRM and Outreach activity. The numbers on the dashboard gets updated automatically as per the data entered. On the left side of the dashboard are multiple filters (Specialty, Region, and Doctor's name) to let the user sort and analyse data as per their needs. A table of CRM metrics is also present on the dashboard. Several charts for easy and quick analysis of monthly patient footfall, patient contact status, categorization of prescriptions, current medical status, prescription scanning compliance, NPS etc were also part of the dashboard. Weekly progress reports were prepared and sent to the CEO, Chairpersons, Doctors, Marketing Head, and Senior Project Manager.

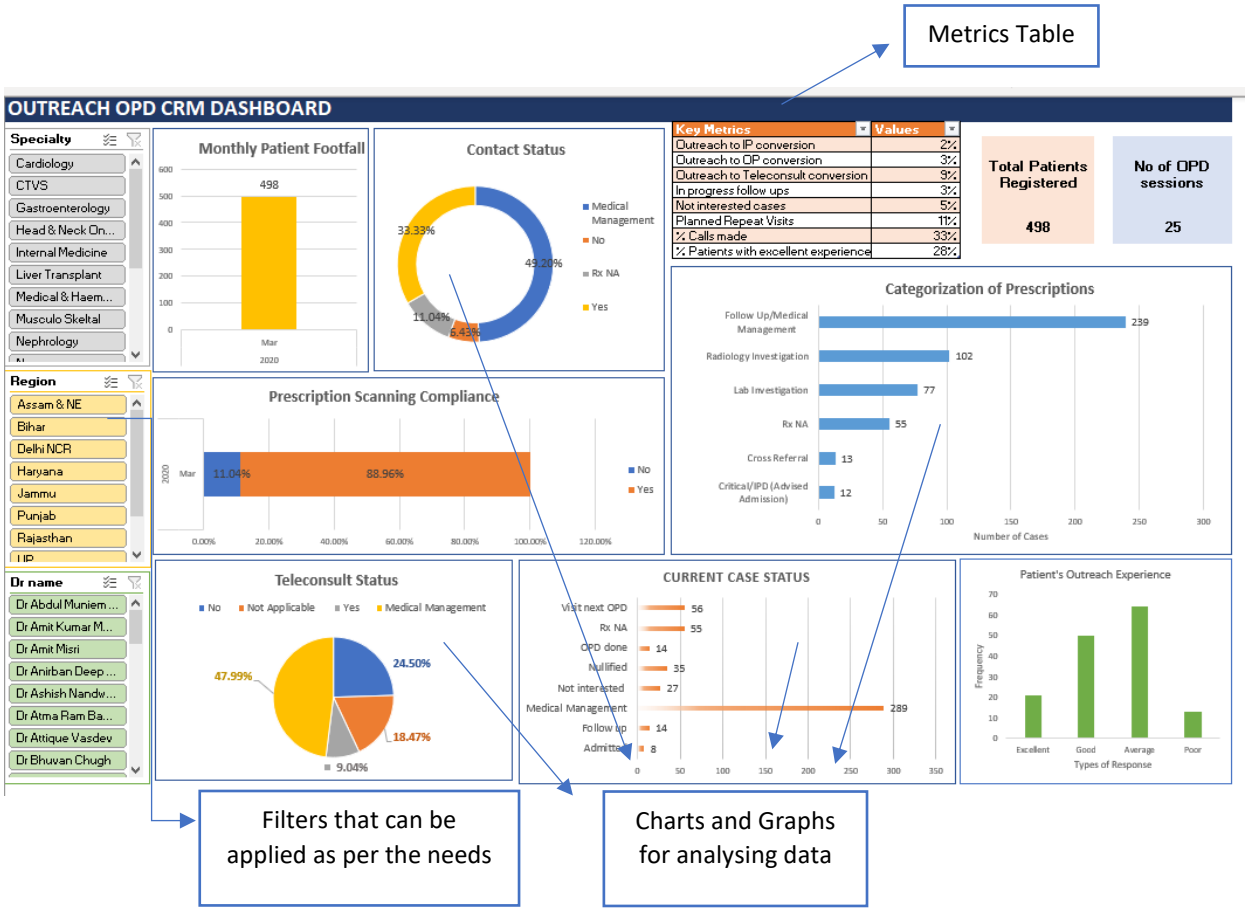

Figure 3.6: Outlook of the interactive Outreach OPD CRM Dashboard and its contents

e. Evaluation:

After conducting 25 sessions of OPD of 16 different specialities, in 9 different states, the evaluation phase had begun to see if the intervention led to improvement in patient footfall and measurement of marketing financial KPIs.

- **Study Population**: All patients who have visited outreach OPD centres between during 1st March'2020 to 21st March'2020 and received consultations. Patients from outreach OPDs of all specialities and all cities were included.
- **Sample Size**: 498
- **Sampling Method**: Complete enumeration, as all the patients who fall under the inclusion criteria have been included.
- **Data collection**: Secondary data is retrieved from HMIS, which has been generated through CRM process.

  Information about the marketing expenditure was collected from marketing department whereas the revenue generated (from all streams: OPD, IPD, Pharmacy, Telemedicine) was retrieved from the billing records by mapping internal movement of patients.
- **Data Analysis**: Data was analysed with the help of MS Excel features like Pivot tables, Formulas etc.

  A format was used for revenue and investment calculation (attached in annexure).

4. RESULTS AND INTERPRETATION

The findings can be categorised under three following heads:

4.1. POST INTERVENTION IMPROVEMENT

1. **Patient record creation:** Outreach database of 498 patients was created which stored accurate records of all the patients and their visits to the OPD centre and hospital. These patients can now be uniquely identified whenever they visit hospital or OPD centre.

2. **Telemedicine Opt-ins:** The intervention also led to 9% of the outreach patients availing telemedicine services. Prior to the intervention, telemedicine service was not opted by the outreach patients.

3. **Trend in Outreach to Inpatient Conversions**

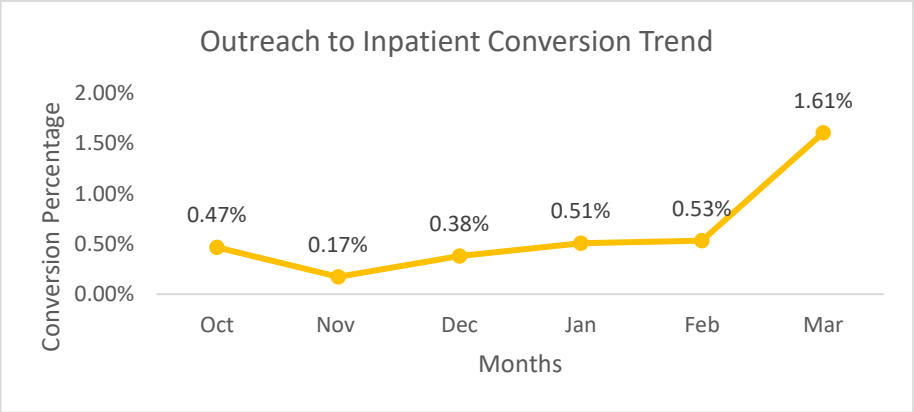

Figure 4.1: Graph representing trend in conversation percentage over months

The trend in outreach to inpatient conversions have been very low from Oct'19 to Feb'20, the lowest conversion being in November i.e. 0.17%. The intervention was done in the month of March, and post intervention the conversion percentage was found to be 1.6%, the highest in 6 months. This indicates that the intervention has been effective in increasing conversion rates.

4. **Conversion improvement through CRM in March**

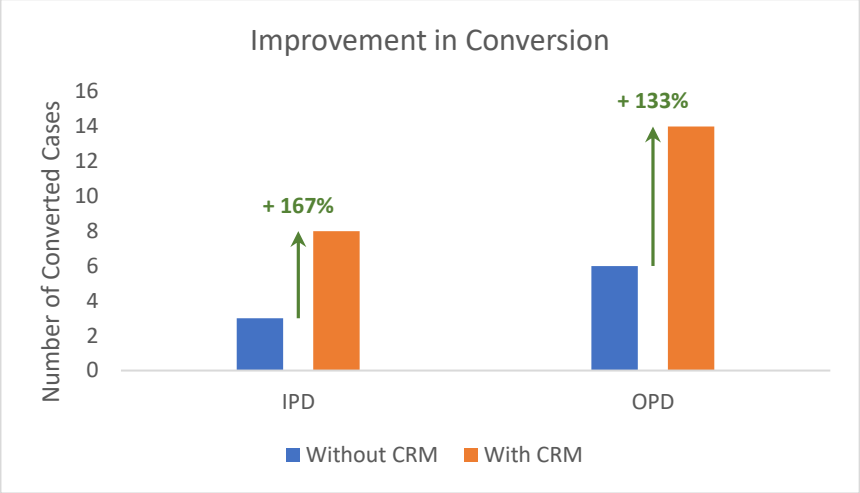

Figure 4.2: Graph representing percentage change in conversion due to CRM (March)

In the month of March during the study period, the IPD and OPD conversion rates in the absence of CRM would have been 0.6% and 1.2% respectively. But, due to patient follow-ups, the actual IPD and OPD conversion rates were 1.6% and 2.8% respectively. The IPD conversions were improved by 167% whereas OPD conversions were improved by 133% due to CRM. This suggests that CRM initiative improved both OPD and IPD conversion percentages.

5. Improvement in Outreach Patient's Experience

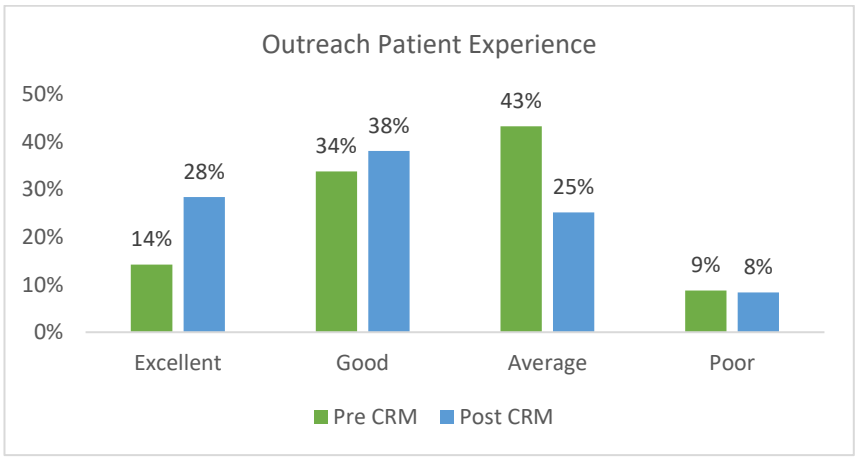

Figure 4.3: Graph representing outreach patient experience pre and post CRM

Around 28% of the patients said that their experience with the Outreach services has been excellent followed by 38% of the patients who said their experience has been good. Percentage of patients who have rated their experience as Excellent and Good post intervention is more than those in the previous month (14% and 34% respectively).

4.2. CRM PROCESS RESULTS

6. Patient Records

It was found that the app for registration was being used in 100% of the OPD sessions. All 498 patients who had made visits to these OPD centres were registered in the HMIS through the app.

7. Prescription Scanning Compliance

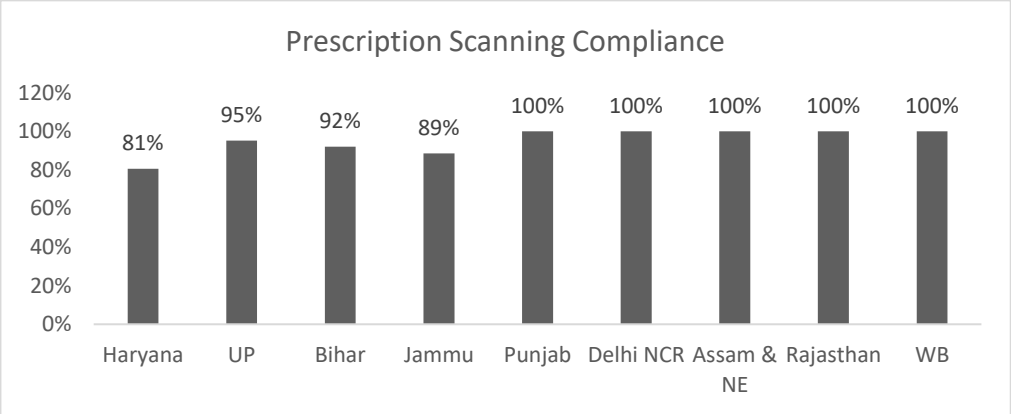

Figure 4.4: Graph representing region wise prescription scanning compliance

In 5 out of 9 regions, compliance to prescription scanning was found to be 100%. In remaining 4 regions: Haryana, UP, Bihar and Jammu non-compliance was reported. The maximum non-compliance was reported in Haryana (19%), followed by Jammu (11%), Bihar (8%) and UP (5%). Low compliance in these regions could be attributed to poor net connectivity, app related issues, missing out on patient by marketing person etc.

8. Patient Tracking and categorisation

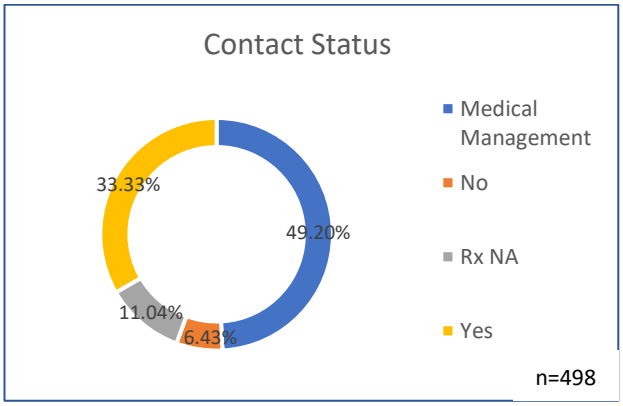

Figure 4.5: Chart representing tracking status of patients

Out of all the cases, the prescriptions were not found for 11% of the patients. In 49% cases, patients were not contacted as they were under medical management. The team

could only reach to 33.3% of the patients as in remaining 6.4% cases, the contact numbers were either invalid, wrong, or not reachable.

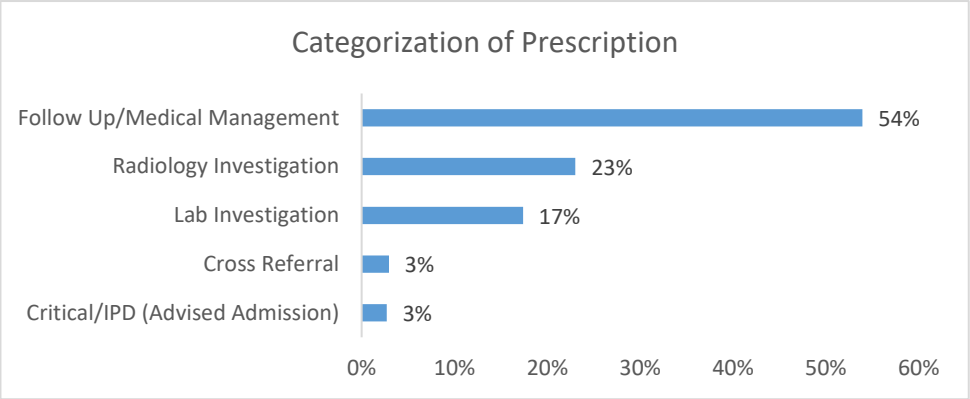

Figure 4.6: Graph representing cases categorised based on prescription

Majority of the cases were of medical management where patients were asked to take medicines and review after few months. In 39% of the cases patients were asked to get radiology or laboratory investigations done. In very limited cases patients where cross referred. Only 3% of the cases where advised admission. Patients who were cross referred, advised admissions and tests were followed up.

9. Patient Follow ups

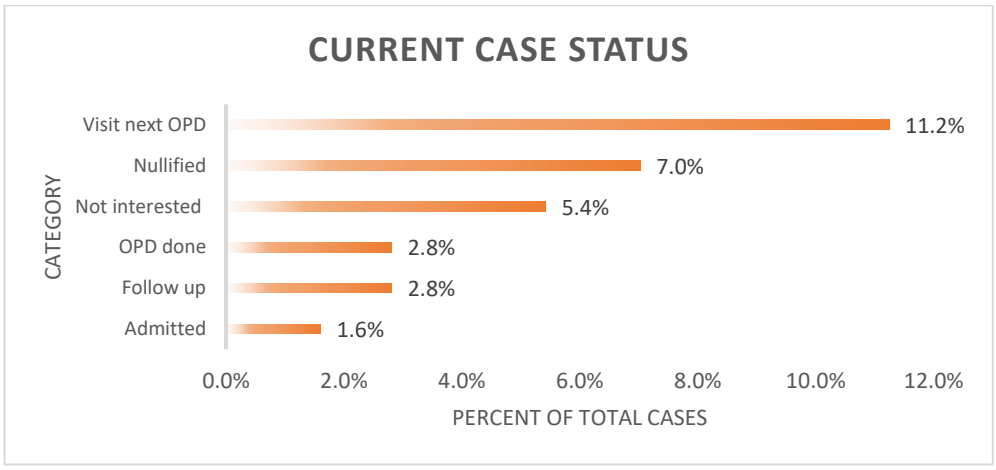

Figure 4.7: Graph representing current status of the leads

The outreach to IP conversion was found to be 1.6% whereas outreach to hospital OPD conversion was 2.8%. Another 2.8% of the patients were still being followed up as they were facing issues related to finance and surgery dates and needed help for the same. In 5.4% of the cases the patients where not interested and do not wished to be called further. Similarly, 7% of the cases were nullified because the team couldn't reach to the patients

even after attempting thrice. Around 11.2% of the contacted patients planned to make a repeat visit in next outreach OPD.

4.3. MARKETING PERFORMANCE KPI'S

10. Patients Reached

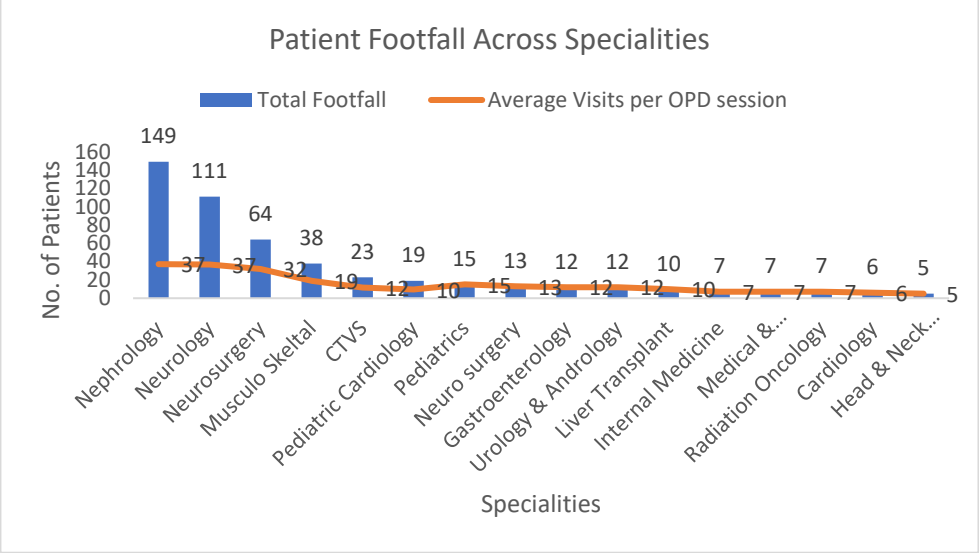

Figure 4.8: Graph representing specialty wise patient footfall

A total of 498 patients were reached and registered in the hospital's system after 25 OPD sessions of 16 specialities. The maximum number (149) of patients were seen in Nephrology OPD sessions (an average visit of 37 patients per session) and the minimum number (5) of patients were reported in Head and Neck Oncology OPD (average of 5 patients in an OPD session).

OPD sessions of other specialities like Neurology, Neurosurgery, Musculoskeletal, CTVS and Paediatric Cardiology witnessed high patient footfall too.

11. Conversions

Three types of conversions were calculated:

- Outreach to OP Conversion

= Patients who have visited hospital's OPD / Total Leads * 100

= 14/498 *100

= 2.8%

- Outreach to IP Conversion

= Patients who have been admitted in the hospital / Total Leads * 100

= 8/498 * 100

= 1.6%

- Outreach to Tele-consult conversion

= Patients who have agreed to receive tele-consults / Total Leads * 100

= 45/498 * 100

= 9%

Interpretation: Above calculated conversion rates indicate that 2.8% of the leads availed hospital's OPD services, whereas only 1.6% of the leads got admitted in the hospital. 9% of the leads agreed to receive tele-consultations. Overall, 13.4% of the leads got converted into customers.

12. Financial Indicators

Four metrics - Cost Per Lead, Lead Value, Customer acquisition cost and ROI - were calculated as per the given table:

Metric	Formula	Value*
Cost Per Lead	Total cost to acquire leads / Total leads	= Rs.625000 / 498 leads = Rs.1255 per lead
Lead Value	Total Sales Value / Total Leads	= Rs. 2018750/498 leads = Rs. 4054 per lead
Customer Acquisition Cost	Total marketing expense / Number of new customers acquired	= Rs625000/67 = Rs. 9328
Return on Investment	(Revenue – Investment) / Investment	= (Rs. 2018750 - Rs 625000) / Rs 625000 = 2.2

Table 4.1 : Financial indicators and their calculation

* Given expense and sales values are for representation purpose only, and do not mirror actual financial values from the institution where this study was performed.

In the above example the total marketing expense and sales value is assumed to be Rs 625000 and Rs 2018750 respectively.

Interpretation: The lead value was found to be 3.23 times of the cost per lead. Let's say, Rs. 1255 is actual cost borne by the marketing department for generating one lead, then each lead is bringing Rs. 4054 to the hospital.
An average of Rs 9328 is spent for acquiring each customer through outreach activity. The return is 2.2 times more than the investment made on the outreach marketing in the study period. This indicates that the marketing activity has been profitable in the study period.

5. DISCUSSION

As suggested by Vaish, Holmes and Chhagani in their researches, it can be seen in this study that deploying a customer relationship management system has improved the effectiveness of Outreach marketing activity by significantly increasing conversion percentages and reducing revenue losses. CRM led to the creation of database of potential customers which if used wisely can help generate useful insights. The objective of Outreach OPD was mainly to improve conversion rates, retention and patient experience, which became possible through CRM. Another objective of Outreach activity is brand building and recall, which can be seen by the number of people willing to visit OPD/hospital again and recommend it to others. Marketing performance were represented by financial indicators like ROI, Conversions, Customer acquisition cost, Lead value, and Cost per lead. There were few limitations in study, as well few areas that could be explored further.

6. LIMITATIONS OF THE STUDY

- Due to urgency in situation, the intervention had to be implemented in all the OPD centres and thus there was no control arm for accurate comparison.
- Monthly trend of Outreach KPI's could not be studied as the outreach activity was put on hold due to Covid-19 pandemic restrictions.
- Opportunity cost of doctor's time wasn't included in the marketing expenses. Moreover, the contribution of human resource expenses in specifically outreach marketing expense was difficult to pin-point because of their fixed yearly incomes.

7. SCOPE OF STUDY

- Once the activity resumes, trends over months can be studied to make strategical changes in the outreach marketing approach.
- Impact on brand awareness and recall can be studied in outreach OPD cities.
- Comparison of financial KPI's of all marketing activities can be done to identify the most profitable marketing method.

8. CONCLUSION

A customer relationship management system was successfully developed which led to patient tracking and follow up, as all outreach patients can now be registered in the hospital's HMIS and followed up. In its absence, the patients might not have reached out to the hospital, leading to less than ideal patient retention. Recording patient details and tracking their medical status has helped the hospital to ensure continuity in patient care.

Through CRM dashboard, continuous monitoring of CRM process is ensured, which is critical for taking real time decisions. The data will help identify better performing cities, specialties, doctors etc so that better OPD plans can be made in future and also to determine other scopes of improvement.

A total of 498 patients were registered and their prescription categorization was also done to identify the prospective customers. The results showed that around 20 patients visit each outreach OPD session. Approximately 9% of the patients agreed to receive teleconsultations, showing the strong scope of using this stream for telemedicine promotion and revenue maximization. The intervention has helped in improving conversion rates significantly, as the IPD and OPD conversions post intervention were found to be 1.6% and 2.8% respectively, which is the highest value in past 6 months.

Through the outreach data, it became possible to determine the effectiveness of this marketing activity. Conversion data combined with data on marketing expenses, allowed us to calculate and understand financial KPI's of outreach activity. A higher ROI and lead value indicate towards the success of the marketing activity and justifies the marketing costs borne by the hospital.

Overall, introduction of the new process has allowed us to create visibility into success of marketing activities and its strategies towards patient experience & retention, through streamlined KPI's and scalability in the approach.

Although it's not wise to evaluate the effectiveness of CRM initiative based on a short term study, and it would have been more appropriate to make final conclusions about the same after a substantial period of time, but the given study can definitely provide a direction for the hospital managers and researchers to further work upon.

9. SUGESSTIONS

- As a lot of leads are missed due to lack of their prescriptions, automatic prescription scanning machines (provided by companies like Doxper and Medtrail) can be used. The CRM process can be automated further to remove chances of error and enable smooth functioning.
- Regions where footfall is less in Outreach OPD centres, promotional methods can be used like advertising on Radios etc.
- It is possible that the outreach patient who has already been registered might get register again in the hospital later at the time of admission, leading to two IDs for the same patient, this can be avoided by educating outreach patients and confirming the same at the time of admission.
- Customer database that has been generated can be used for targeted marketing in future.

10.REFERENCES

1. Ambler T. Marketing Metrics. Business Strategy Review [Internet]. 2000 [cited 18 May 2020];11(2):59-66. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-8616.00138
2. Chhangani A. Investigating customer relationship management (CRM) in Indian hospitals. International Journal of Research in Advent Technology [Internet]. 2013 [cited 13 May 2020];1(5):405-408. Available from: https://tinyurl.com/yawd3hlx
3. Customer Relationship Management and Healthcare Services. Available from: https://shodhganga.inflibnet.ac.in/bitstream/10603/193825/10/09_chapter2.pdf
4. Evaluating Marketing Performance | Boundless Marketing [Internet]. Courses.lumenlearning.com. 2020 [cited 18 May 2020]. Available from: https://courses.lumenlearning.com/boundless-marketing/chapter/evaluating-marketing-performance/
5. Gaede B, Mckerrow N. Outreach programme: consultant visits to rural hospitals. Continuing Medical Education [Internet]. 2011; 29(2):54-58. Available from: http://www.cmej.org.za/index.php/cmej/article/view/2010
6. Gao Y. Measuring marketing performance: a review and a framework. The Marketing Review [Internet]. 2010 [cited 17 May 2020];10(1):25-40. Available from: https://tinyurl.com/y8lj2tb6
7. Holmes K. The Shifting Role of the CRM in Marketing: What The Experts Say [Internet]. Online Marketing. 2019 [cited 12 May 2020]. Available from: https://www.ruleranalytics.com/blog/online-marketing/crm-in-marketing/
8. Lorin Purcarea V. The Impact of Marketing Strategies in Healthcare Systems. Journal of Medicine and Life [Internet]. 2019;12(2):93-96. Available from: https://pubmed.ncbi.nlm.nih.gov/31406509/
9. Role of CRM in Healthcare Services 2020 [Internet]. Kapture Healthcare. 2019 [cited 12 May 2020]. Available from: https://www.kapturecrm.com/blog/role-crm-healthcare-services/
10. Solcansky M, Simberova I. Measurement of Marketing Effectiveness. Economics and Management [Internet]. 2010 [cited 18 May 2020];15:755-759. Available from: https://tinyurl.com/y7hefckb
11. Sundaram R. Community Outreach Initiatives [Internet]. Madurai: Arvind Eye Hospitals and Seva Foundation. Available from: http://v2020eresource.org/content/files/Communioutreachmodule.pdf

12. Vaish A, Vaish A, Vaishya R, Bhawal S. Customer relationship management (CRM) towards service orientation in hospitals: A review. Apollo Medicine. 2016;13(4):224-228. Available from: https://tinyurl.com/y7p85tvn

11.ANNEXURES

12.1 Format of database for storage of patient records and CRM details

	A	B	C	D	E	F	G	H
1	UHID	Patient Name	Contact No.	Dept/ Specialty	Dr name	Location	Region	Visit Date
2								
3								
4								

Part A (retrieved from HMIS)

	I	J	K	L	M
1	Comments	Prescription Category	Lab Investigation	Radiology Investigation	Cross Referral
2					
3					
4					

Part B (to be filled by MT team)

	N	O	P	Q	R	S	T	U	V
1	Call attempted	Contactable	Agreed for OP/Teleconsult	Case Status	Follow Up 1	Follow Up 2	Last Updated Status	Updated By	Admission date
2									
3									
4									

Part C (to be filled by OCC team)

7.2. Revenue and Investment calculation format

Patient UHID	Revenue Streams				Total Revenue per patient
	OPD	IPD	Telemedicine	Pharmacy	
XXXX	a	b	c	d	a+b+c+d
YYYY					
Total Revenue					

Revenue Calculation Format

Outreach Session	Costs				Total cost per session
	Promotional	OPD setup	Travelling and Logistics	Human Resources	
1	m	n	O	p	m+n+o+p
2					
Total Cost					

Investment Calculation Format