INTERNSHIP TRAINING

AT

DELOITTE, BENGALURU

"IMPORTANCE OF PATIENT APPOINTMENT REMINDER SYSTEM AND DIFFERENT WAYS OF REMINDING PATIENT TO REDUCE NO-SHOW RATE"

BY

MUDITA RAWAT

PG/14/037

UNDER THE GUIDANCE OF

DR. NISHIKANT BELE

POST GRADUATE DIPLOMA IN HOSPITAL AND HEALTH MANAGEMENT

2014-16

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,NEW DE

Internship Training

at

Deloitte Consulting India Pvt. Ltd

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International Institute of Health Management Research New Delhi

Deloitte.

April 29, 2016

To Whom It May Concern

This is to certify that Ms. **Mudita Rawat** was on a fixed term Internship from **February 8, 2016** to **April 29, 2016**. She has successfully completed her Internship in **Application Management Services**.

We wish you the very best in your future endeavors.

Yours truly,

For Deloitte Consulting India Pvt. Ltd.

GUNJAN MITTAL

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76bd3dda7880b456ecc3b562d2f75d3
0e6b19b097e63d, cn=GUNJAN
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Date: 2015.04.06 12:11:42 +05'30'

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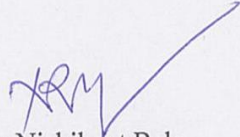
TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mudita Rawat student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi has undergone internship training at Deloitte Consulting Pvt Ltd. from 8th Feb,2016 to 29th Apr,2016 .

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 him all success in all his future endeavors.

Dr. A.K. Agarwal

Dean, Academics and Student Affairs

IIHMR, New Delhi

Dr. Nishikant Bele

Associate Professor

IIHMR , New Delhi

Certificate Of Approval

The following dissertation titled **"Importance of patient appointment reminder system and different ways of reminding patient to reduce no-show rate"** at "Deloitte Consulting Pvt Ltd." is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of Post Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name   Signature

Surjeet Thakur

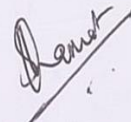Dr. Anadhi Ramachader

Surendra Tyagi

5

Certificate from Dissertation Advisory Committee

This is to certify that Mudita Rawat, a graduate student of the Post- Graduate Diploma in Health and Hospital Management has worked under our guidance and supervision. She is submitting this dissertation titled "IMPORTANCE OF PATIENT APPOINTMENT REMINDER SYSTEM AND DIFFERENT WAYS OF REMINDING PATIENTS TO REDUCE NO-SHOW RATE" at "Deloitte U.S India Consulting" in partial fulfillment of the requirements for the award of the Post Graduate Diploma in Health and Hospital Management.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Nishikant Bele
Associate Professor,
IIHMR, Delhi

Uday Kamat
Manager AMS
Deloitte US India, Bangalore

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Importance of patient appointment reminder system and different ways of reminding patient to reduce no-show rate** and submitted by Mudita Rawat Enrollment No. PG/15/037 under the supervision of Dr. Nishikant Bele

for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 08/02/2016 to 29/04/2016 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.

Mudita

Signature

FEEDBACK FORM

Name of the Student: MuditaRawat

Dissertation Organization: Deloitte Consulting India Pvt Ltd

Area of Dissertation: Patient Scheduling

Attendance: Full

Objectives achieved:
1. Process orientation of how patient scheduling functionality has evolved in the US healthcare arena.
2. How the scheduling module functions in Epic EMR.
3. How does scheduling impact the revenue of a hospital and what are the ways of using advanced scheduling features to improve patient turn out.
4. How does scheduling impact patient care and satisfaction.

Deliverables: Power Point presentation on scheduling functionality.
Data Analysis on the previous No- Shows of patients in organization associated with Deloitte AMS

Strengths: understands the business logic of patient scheduling, interpretation of data and metrics and derive conclusions.
Articulation: Mudita articulates the subject in a proper way so that we can understand the reasons of a particular cause and its effect

Suggestions for Improvement: No improvement

Sudheendra M
Team Lead
Deloitte AMS CIS
Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date: Hyderabad
Place: 5/12/2016

ACKNOWLEDGEMENT

Hard work, guidance and perseverance are the pre requisite for achieving success. Support from an enlightening source helps us to proceed on the path. I wish to thank first of all the almighty that provided me energy for the successful completion of dissertation report at Deloitte, Bengaluru.

I am thankful and obliged to my mentor at Deloitte, Bengaluru Mr. Sudheendra Kumar for giving me an opportunity to work on this report and for his continuous support, guidance and perseverance during the course of my report generation.

I am highly indebted to my mentor at IIHMR, New Delhi Dr. NishikantBele for his valuable guidance and motivation on various aspects of report.

It has been my good fortune to be benefited by their knowledge, guidance and deep insight without which this report would not have taken the exact shape .To them, I tender my heartfelt regards.

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Abbreviation

S.no	Abbreviation	Full form
1.	HER	Electronic Health Record
2.	EMR	Electronic Medical Record
3.	HIT	Health Information Technology
4.	IT	Information Technology

Abstract

Patients who do not keep physician appointments (no-shows) represent a significant loss to healthcare providers. For patients, the cost includes their dissatisfaction and reduced quality of care. Different ways of appointment reminder system may decrease the no-show rate. Automated telephonic call is one of the ways to remind but still reaching all patients by automated calls is not possible. So we can have different ways to remind patient about the appointments according to the age group etc.

Benefits of a Patient Appointment Reminder System

- Improve office efficiencies – Reduce staff time spent on the phone for out-bound calls

- Higher patient arrival rates – Use medical appointment reminders to provide the date and time for an upcoming appointment

- Improve patient preparedness for appointments – e.g. Include specific patient messaging such as "no food or drink after midnight" for those patients having lab work

- Improve compliance – Remind patients of annual exams and unscheduled treatment

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- Recall patients who missed appointments or need follow-up appointments

This project is a retrospective descriptive study on patient appointment reminder system to find out different ways through which patient can be reminded to reduce   no-show rate or missed appointments. This is the secondary research for which data collected is a primary data of hospital and it is collected through reports generated by hospitals EMR used in USA hospitals and clinics. The data collected will be analyzed using tools like MS excel.

<u>Organisation Profile</u>

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dynamism and fluid-thinking of the young graduate, with the business knowledge and insight of the seasoned executive. Investing in the people means Deloitte clients get world-class expertise to solve their complex business problems.

Introduction

The **EMR** represents a medical record within a single facility, such as a doctor's office or a clinic. An **electronic health record** (**EHR**), or **electronic medical record** (**EMR**), refers to the systematized collection of patient and population electronically-stored health information in a digital format.These records can be shared across different health care settings. Records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges. EHRs may include a range of data, including demographics, medical history, medication and allergies, immunization status, laboratory test results, radiology images, vital signs, personal statistics like age and weight, and billing information

EHR systems are designed to store data accurately and to capture the state of a patient across time. It eliminates the need to track down a patient's previous paper medical records and assists in ensuring data is accurate and legible. It can reduce risk of data replication as there is only one modifiable file, which means the file is more likely up to date, and decreases risk of lost paperwork. Due to the digital information being searchable and in a single file, EMR's are more effective when extracting medical data for the examination of possible trends and long term changes in a patient.

The terms EHR, electronic patient record (EPR) and EMR have often been used interchangeably, although differences between the models are now being defined. The electronic health record (EHR) is an evolving concept defined as a more longitudinal collection of the electronic health information of individual patients or populations. The EMR is, in contrast, defined as the patient record created by providers for specific encounters in hospitals and ambulatory environments, and which can serve as a data source for an EHR. It is important to note that an "EHR" is

generated and maintained within an institution, such as a hospital, integrated delivery network, clinic, or physician office, to give patients, physicians and other health care providers, employers, and payers or insurers access to a patient's medical records across facilities. . The EMR takes the hassle out of appointment scheduling.

Appointments in the medical office are so important because they are client's only resource for using services. Without proper scheduling, clinics will quickly become a chaotic, unorganized mess. This raises stress not only for staff, but clientele as well.Patient nonattendance (commonly known as "no-shows") at scheduled medical appointments represents a serious problem for many healthcare providers. Patient no-shows are one of the most vexing issues in managing a medical practice. When a patient doesn't cancel in advance with adequate notice or simply doesn't show up for their appointment, the practice loses a block of billable time they could have used to see other patients. According to the Medical Group Management Association, no-shows range from 5% to 7% in the typical practice. In order to determine the financial impact on your practice, multiply the amount of revenue your practice makes for the average appointment, by the number of patient appointments per week, by 6% (the average of 5 – 7%). For example, if the average revenue per appointment is $150, and the practice sees 100 patients a week, the weekly revenue would be $15000. With a no show rate of 6% (the practice has approximately 6 no-shows per week), the resulting potential impact would be $900 per week. Over the course of a year that would climb to be a substantial $46,800 of lost revenue per year. Using those numbers, each 1% of no-show is equal to $7,800. Reducing the percentage of no-shows to 5% would reduce the lost revenue to $39,000 and yield $7,800 of additional revenue per year. If the practice were

really successful in reducing no-show and could get the percentage to 4%, it could increase revenue by $15,600.

Problems accounting for nearly all no shows.

1. Patients don't feel an established relationship with their doctor. New patients, those who tend to see many different doctors in the same practice, and those who don't feel they know their doctor very well are more likely to miss their appointments than those who feel a close connection to their physician. Taking the time to develop a rapport with these patients can help reduce no-shows.

2. They don't appreciate the need for the services that they will receive during the appointment. Taking the time to educate the patient about why a certain test or follow-up visit is important and can solicit patient cooperation.

Patients have to wait a long time to get an appointment and may either forget the appointment or decide they no longer need it.

3. They have to wait a long time in the waiting room. Improving workflow to reduce wait times enhances patient satisfaction and helps underscore the message that the practice takes a holistic interest in the patient.

4. They don't feel connected with the practice staff.

5. They have personal issues, such as scheduling conflicts or transportation problems, which cause them to miss their appointments.

6. Obviously, the best way to help a patient keep an appointment is to remind them that they have one.Reminder calls can be opportunities.

7. Reminder phone calls -- either live or automated -- or emails if your patients prefer them are an absolute must. Although a study published in the June 2010 issue of the **American Journal of Medicine** found that patients who received a live call rather than a recorded reminder were less likely to miss their appointments -- 13.6% compared with 17.3% -- having staffers make calls can be challenging.

The calls eat up staff time and can be neglected during a busy day.Because staffers generally make the calls during business hours, they're often forced to leave messages. By contrast, automated calls can be made in the evening, when people are more likely to be home, and they provide an opportunity for patients to cancel their appointments by simply pushing a button.

Though some of the no-show appointment slots can be compensated by walk-in patients, Studies have shown that appointment reminders of any kind—phone, e-mail, text message or mailed postcard—can have an immediate and positive impact on the number of successful appointments complete financial recovery from a high no-show rate is most likely impossible.

<u>Review of Literature</u>

An electronic medical record (**EMR**) is a digital version of the traditional paper-based medical record for an individual. The **EMR** represents a medical record within a single facility, such as a doctor's office or a clinic. These records can be shared across different health care settings. Records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges. EHRs may include a range of data, including demographics, medical history, medication and allergies, immunization status, laboratory test results, radiology images, vital signs, personal statistics like age and weight, and billing information.[1]

Patient no-shows are one of the most vexing issues in managing a medical practice. When a patient doesn't cancel in advance with adequate notice or simply doesn't show up for their appointment, the practice loses a block of billable time they could have used to see other patients. Medical practices average a 5 to 7 percent no-show rate, according to the Medical Group Management Association (MGMA). No-show appointments are a reality of every medical practice. While you may not be able to eliminate them, there are ways to reduce no-shows and the negative effect they have on your practice.[2]

Remind patients that they have an appointment with practice. Assign staff to remind patients at least 48 hours in advance of their appointment or consider using an automated appointment reminder service if it makes financial sense for the practice. Patients who fail to show up for appointments are the bane of a physician's practice. No-shows reduce revenues, waste staff time, create artificial access problems, and negatively affect patient care.[3]

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Although practices may respond to the problem with myriad strategies, including charging patients who fail to show up, overbooking schedules, and making repeat reminder calls, experts say that understanding the reasons patients miss their appointments is key to crafting a successful, proactive strategy.

In daily work as medical professionals, striving for better patient treatment and for increased operational efficiency is must. A patient appointment reminder system allows us and staff to focus on providing care while maintaining effective and efficient patient communication. Family practices, urgent care facilities, veterinary practices and laboratories can all use an automated patient appointment reminder solution to streamline patient notifications.

A simple, reliable tool to make patient appointment reminder calls can reduce no-shows, increase practice revenue, and lead to better patient compliance.

Benefits of a Patient Appointment Reminder System

- Improve office efficiencies – Reduce staff time spent on the phone for out-bound calls
- Higher patient arrival rates – Use medical appointment reminders to provide the date and time for an upcoming appointment
- Improve patient preparedness for appointments – e.g. Include specific patient messaging such as "no food or drink after midnight" for those patients having lab work
- Improve compliance – Remind patients of annual exams and unscheduled treatments
- Recall patients who missed appointments or need follow-up appointments.[4]

Text-messaging versus telephone reminders to reduce missed appointments in an academic primary care clinic: a randomized controlled trial

Noelle JunodPerron,Melissa Dominicé Dao,Nadia Camparini Righini,Jean-Paul Humair,Barbara Broers,Françoise Narring,Dagmar M Haller andJean-Michel Gaspoz

Abstract

- **Background**

  Telephone or text-message reminders have been shown to significantly reduce the rate of missed appointments in different medical settings. Since text-messaging is less resource-demanding, we tested the hypothesis that text-message reminders would be as effective as telephone reminders in an academic primary care clinic.

- **Methods**

A randomized controlled non-inferiority trial was conducted in the academic primary care division of the Geneva University Hospitals between November 2010 and April 2011. Patients registered for an appointment at the clinic, and for whom a cell phone number was available, were randomly selected to receive a text-message or a telephone call reminder 24 hours before the planned appointment. Patients were included each time they had an appointment. The main outcome was the rate of unexplained missed appointments. Appointments were not missed if they were cancelled or re-scheduled before or independently from the intervention. We defined non-inferiority as a difference below 2% in the rate of missed appointments and powered the study accordingly. A satisfaction survey was conducted among a random sample of 900 patients (response rate 41%).

- **Results**

  6450 patients were included, 3285 in the text-message group and 3165 in the telephone group. The rate of missed appointments was similar in the text-message group (11.7%, 95% CI: 10.6-12.8) and in the telephone group (10.2%, 95% CI: 9.2-11.3 p = 0.07). However, only text message reminders were cost-effective. No patient reported any disturbance by any type of reminder in the satisfaction survey. Three quarters of surveyed patients recommended its regular implementation in the clinic.

- **Conclusions**

Text-message reminders are equivalent to telephone reminders in reducing the proportion of missed appointments in an academic primary care clinic and are more cost-effective. Both types of reminders are well accepted by patients.

Among the 6354 analyzed appointments, 78% came from the general primary care clinic in the text messaging group and 79.6% in the telephone group. Both arms were comparable in term of patients' age and gender and of health professionals' profile.[5]

The Effectiveness of Outpatient Appointment Reminder Systems in Reducing No-Show Rates

Amay Parikh, MD, MBA, MS, , Kunal Gupta, MD, MBA, Alan C. Wilson, PhD, Karrie Fields, CPC,Nora M. Cosgrove, RN, John B. Kostis, MD

Abstract

- *Background*

  Patients who do not keep physician appointments (no-shows) represent a significant loss to healthcare providers. For patients, the cost includes their dissatisfaction and reduced quality of care. An automated telephone appointment reminder system may decrease the no-show rate. Understanding characteristics of patients who miss their appointments will aid in the formulation of interventions to reduce no-show rates.

- *Methods*

In an academic outpatient practice, we studied patient acceptance and no-show rates among patients receiving a clinic staff reminder (STAFF), an automated appointment reminder (AUTO), and no reminder (NONE). Patients scheduled for appointments in the spring of 2007 were assigned randomly to 1 of 3 groups: STAFF (n = 3266), AUTO (n = 3219), or NONE (n = 3350). Patients in the STAFF group were called 3 days in advance by front desk personnel. Patients in the AUTO group were reminded of their appointments 3 days in advance by an automated, standardized message. To evaluate patient satisfaction with the STAFF and AUTO, we surveyed patients who arrived at the clinic (n = 10,546).

- *Results*

  The no-show rates for patients in the STAFF, AUTO, and NONE groups were 13.6%, 17.3%, and 23.1%, respectively (pairwise, $P < .01$ by analysis of variance for all comparisons). Cancellation rates in the AUTO and STAFF groups were significantly higher than in the NONE group ($P < .004$). Appointment reminder group, age, visit type, wait time, division specialty, and insurance type were significant predictors of no-show

rates. Patients found appointment reminders helpful, but they could not accurately remember whether they received a clinic staff reminder or an automated appointment reminder.

- *Conclusions*

  A clinic staff reminder was significantly more effective in lowering the no-show rate compared with an automated appointment reminder system.[6]

Use of Mobile Phone Text Message Reminders in Health Care Services: A Narrative Literature Review

Kati Anneli Kannisto1,2, BNSc ; MaritaHannele Koivunen1,2, PhD ; MarittaAnneli Välimäki1,3, RN, PhD

ABSTRACT

Background: Mobile text messages are a widely recognized communication method in societies, as the global penetration of the technology approaches 100% worldwide. Systematic knowledge is still lacking on how the mobile telephone text messaging (short message service, SMS) has been used in health care services.

- **Objective:** This study aims to review the literature on the use of mobile phone text message reminders in health care.

- **Methods:** We conducted a systematic literature review of studies on mobile telephone text message reminders. The data sources used were PubMed (MEDLINE), CINAHL,

Proquest Databases/ PsycINFO, EMBASE, Cochrane Library, Scopus, and hand searching since 2003. Studies reporting the use of SMS intended to remind patients in health services were included. Given the heterogeneity in the studies, descriptive characteristics, purpose of the study, response rates, description of the intervention, dose and timing, instruments, outcome measures, and outcome data from the studies were synthesized using a narrative approach.

Results: From 911 initial citations, 60 studies were included in the review. The studies reported a variety of use for SMS. Mobile telephone text message reminders were used as the only intervention in 73% (44/60) of the studies, and in 27% (16/60) of the remaining studies, SMS was connected to another comprehensive health intervention system. SMS reminders were sent to different patient groups: patients with HIV/AIDS (15%, 9/60) and diabetes (13%, 8/60) being the most common groups. The response rates of the studies varied from 22-100%. Typically, the text message reminders were sent daily. The time before the specific intervention to be rendered varied from 10 minutes (eg, medication taken) to 2 weeks (eg, scheduled appointment). A wide range of different evaluation methods and outcomes were used to assess the impact of SMS varying from existing databases (eg, attendance rate based on medical records), questionnaires, and physiological measures. About three quarters of the studies (77%, 46/60) reported improved outcomes: adherence to medication or to treatment reportedly improved in 40% (24/60) of the studies, appointment attendance in 18% (11/60) of the studies, and non-attendance rates decreased in 18% (11/60) of the studies. Other positive impacts were decreased amount of missed medication doses, more positive attitudes towards medication, and reductions in treatment interruptions.

- **Conclusions:** We can conclude that although SMS reminders are used with different patient groups in health care, SMS is less systematically studied with randomized controlled trial study design. Although the amount of evidence for SMS application recommendations is still limited, having 77% (46/60) of the studies showing improved outcomes may indicate its use in health care settings. However, more well-conducted SMS studies are still needed.[7]

<u>**Objectives**</u>

GENERAL OBJECTIVES:

To determine the effect of Patient appointment reminder system and different ways to improve it to reduce no shows.

SPECIFIC OBJECTIVES:

- To determine the need for the patient reminder system in the current healthcare delivery systems.

- To determine the impact of patient appointment reminder.

- To give recommendations for improving patient appointment reminder system.

RESEARCH METHODOLOGY

Research Design

Type of Research: Retrospective Descriptive Research

Sample Design

- Sample Unit: Appointment

- Sample Data : January,2015 to December,2015

- Sample Size: 6819945

- Sampling Technique: Purposive Sampling

- Sampling Area: Hospitals in the US
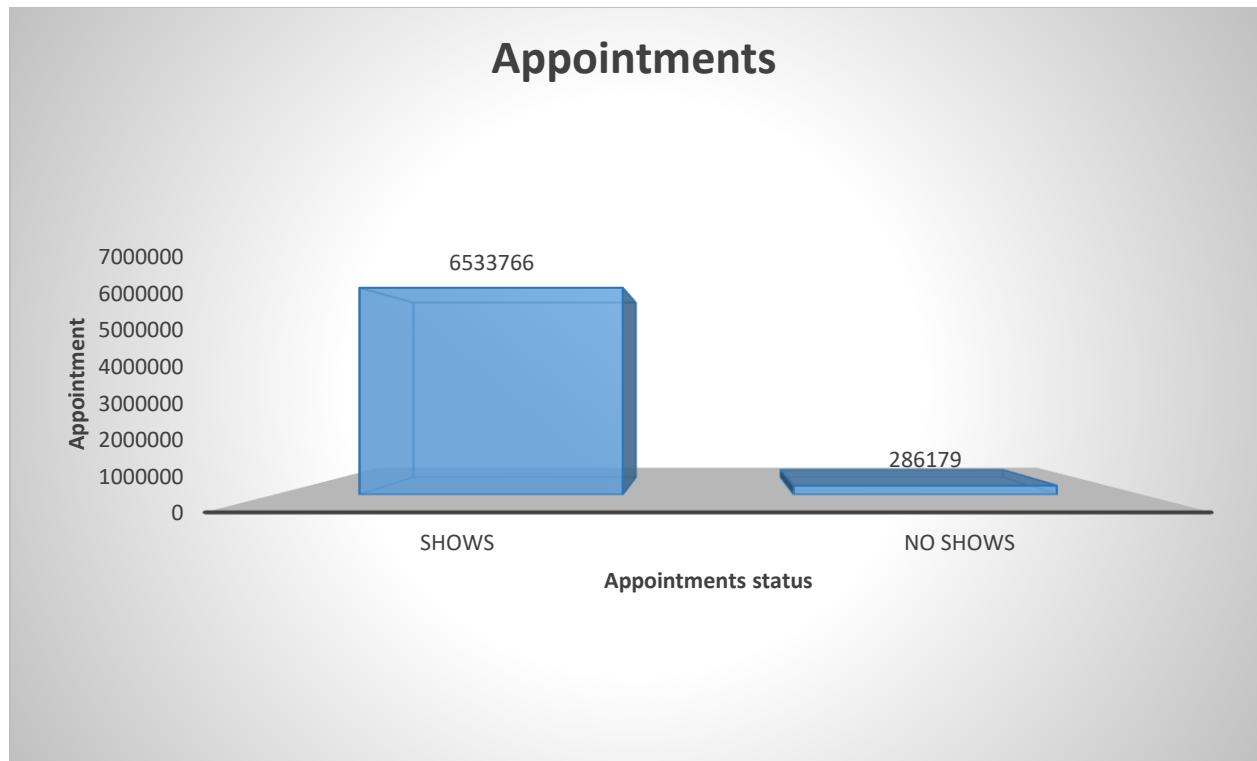
Data Collection

- Source

Secondary Data:

> ➢ Data was collected from the system database,

> ➢ Available on Internet and journals.

- Tools

> ➢ The data was collected through report fetching tools

> ➢ MS Excel.

<u>Data Analysis</u>

1.1 Represents the effect of patient appointment reminder system {automated call) on total appointments.
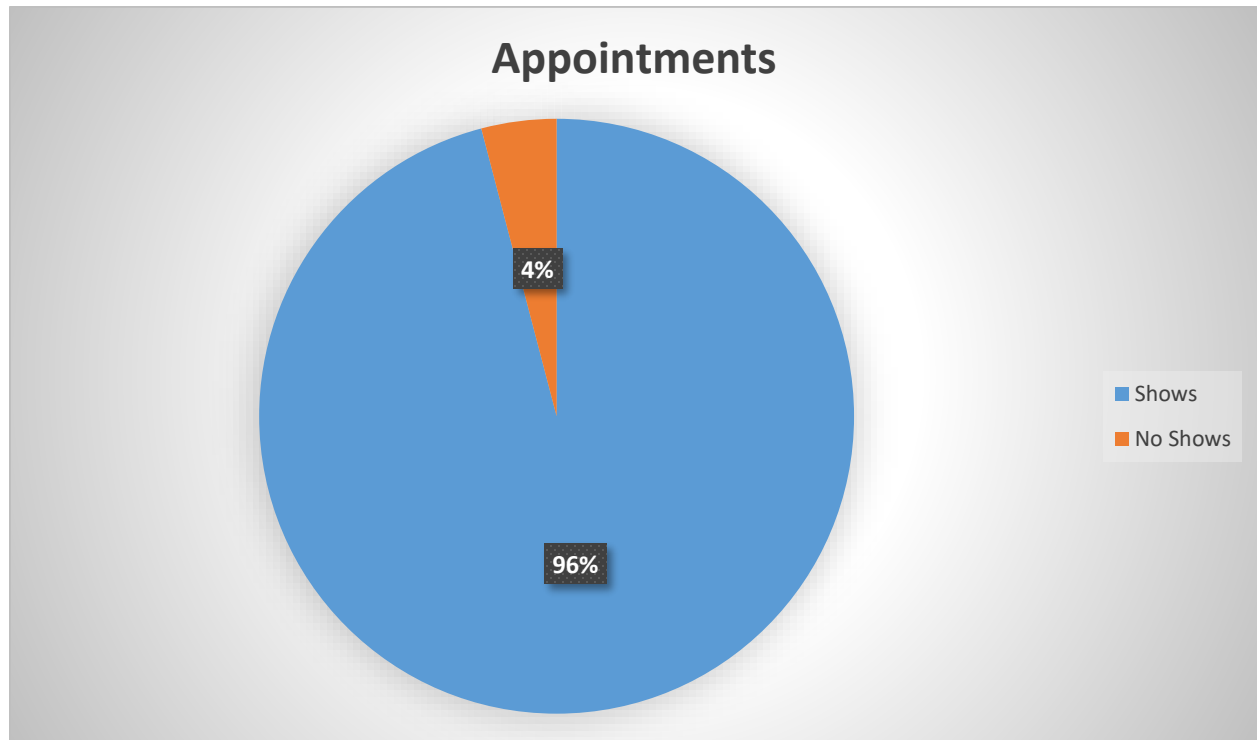

	No shows
Shows	
6533766	286179

Table 1.1 Total number of shows and no-shows

Inference 1.1: The analysis of the data of Show and No Show patients nearly accounts for 23.5 times more than the No show. This again concludes that a proper management effective reminder system not only increases the effectiveness of patient delivery but also increases the amount of patient satisfaction.

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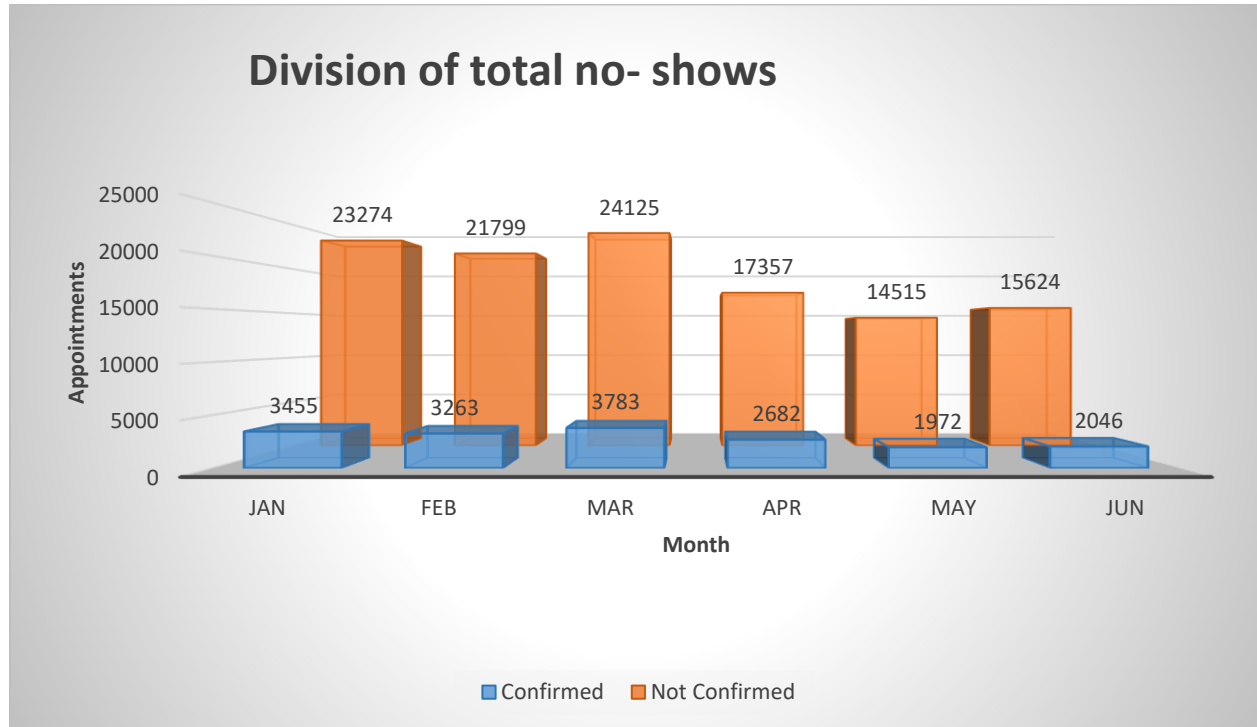1.2 Represents the percentage of Shows and no showsbecaused of the presence of automated call reminder system

Shows	No shows	Total	Shows	No Shows
6533766	286179	6819945	95.80	4.20

Table 1.2 Percentage of no shows and shows

Inference:

The automated call reminder system has facilitated the patient turnover to 96% and with only 4% of No-Show increasing the effectiveness of the patient appointment base.

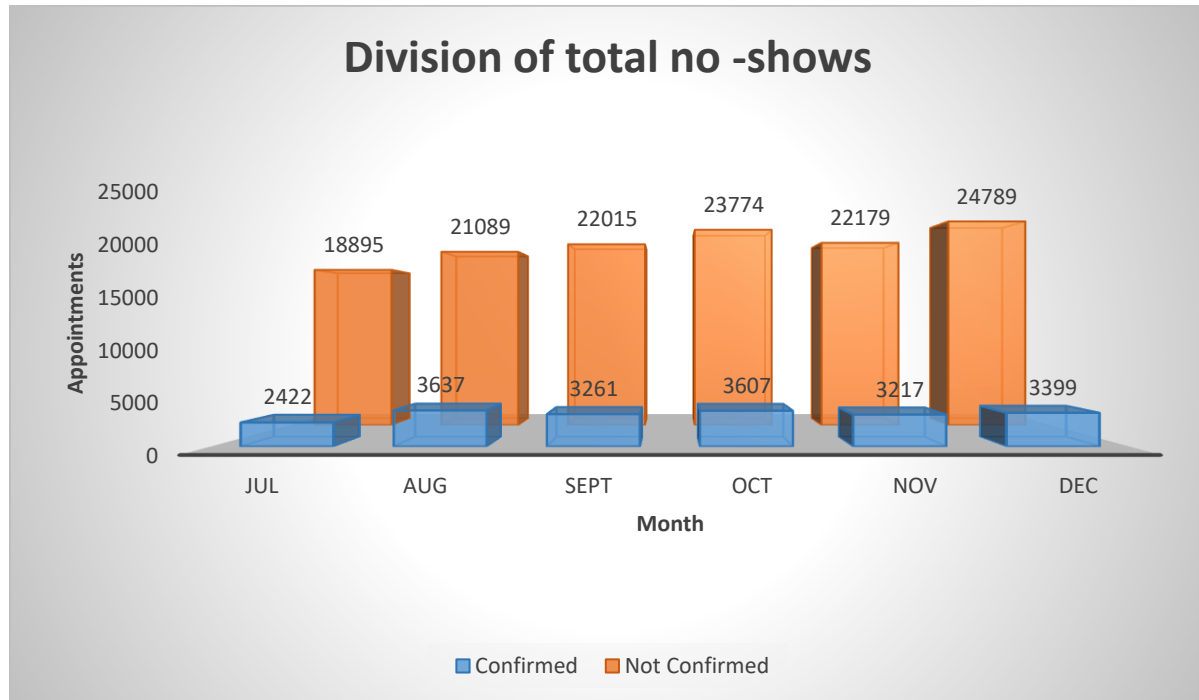2.1.aRepresents the effect of confirmation status on no-shows (Q1 and Q2)

Division of total no- shows

Month	Confirmed	Not Confirmed
JAN	3455	23274
FEB	3263	21799
MAR	3783	24125
APR	2682	17357
MAY	1972	14515
JUN	2046	15624

Table 2.1.a Shows the number of confirmed and unconfirmed no-shows for 6 months(Q1 and

Q2)

Inference : The diagram shows that the patient who has not confirmed are significantly high than those who had confirmed.

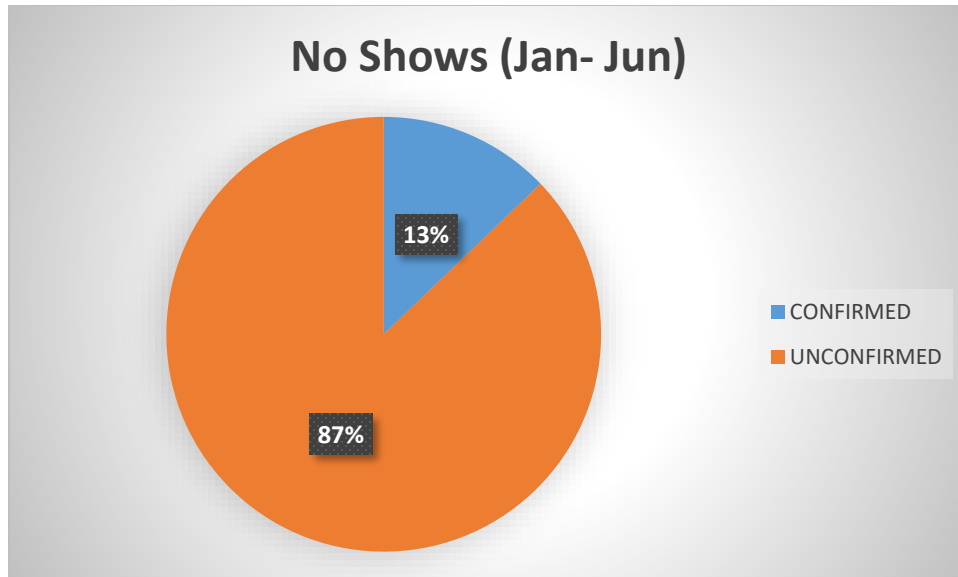2.1.bRepresents effect of confirmation status on no- shows (Q3 and Q4)

Month	Confirmed	Not Confirmed
JUL	2422	18895
AUG	3637	21089
SEPT	3261	22015
OCT	3607	23774
NOV	3217	22179
DEC	3399	24789

2.1.b Shows the number of confirmed and unconfirmed no-shows for Q3 and Q4

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Inference: the diagram represents that no shows are largely found on the patient who did not confirm the appointments.

On comparing diagram 2.1 and diagram 2.2 it is observed thatno shows were highest in the month of March and October i.e.; 27908 and 27381.
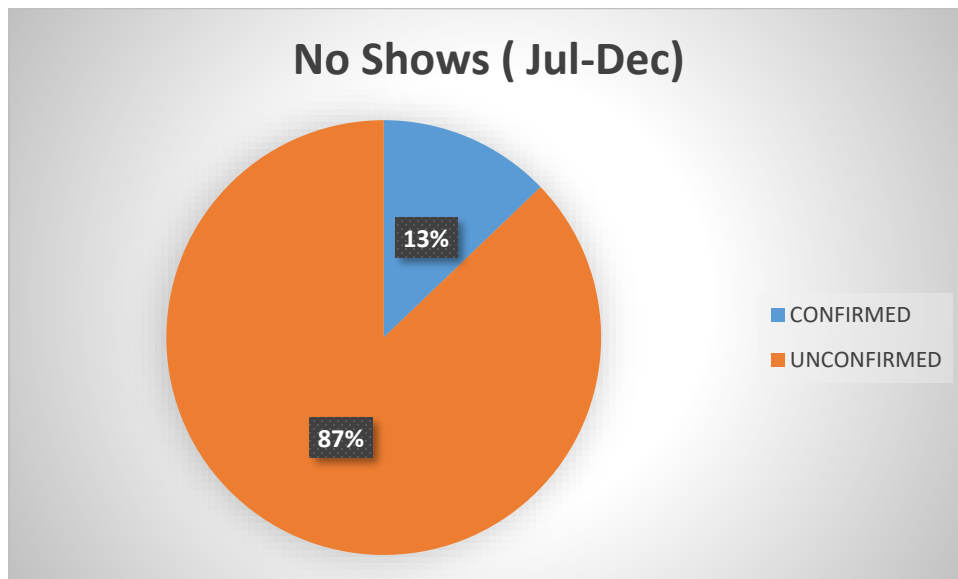
2.2.a.Represents percentage of no shows(confirmed and unconfirmed)

.

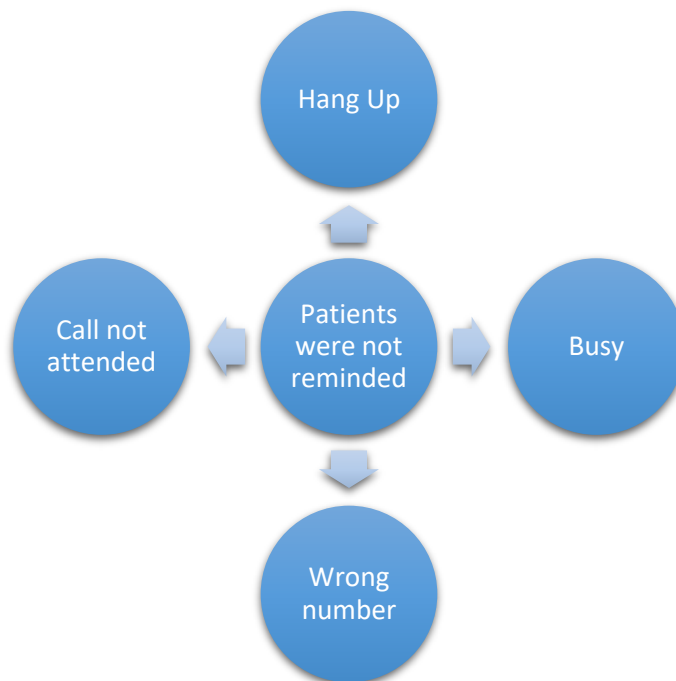| Month	Total No shows	Confirmed	Not Confirmed
Jan-Jun	133895	12.85	87.15
Jul-Dec	152284	12.83	87.17

2.3Shows the total percentage of confirmed and not confirmed appointments who did not show up half yearly

2.2.bRepresents percentage of no shows {confirmed and unconfirmed)

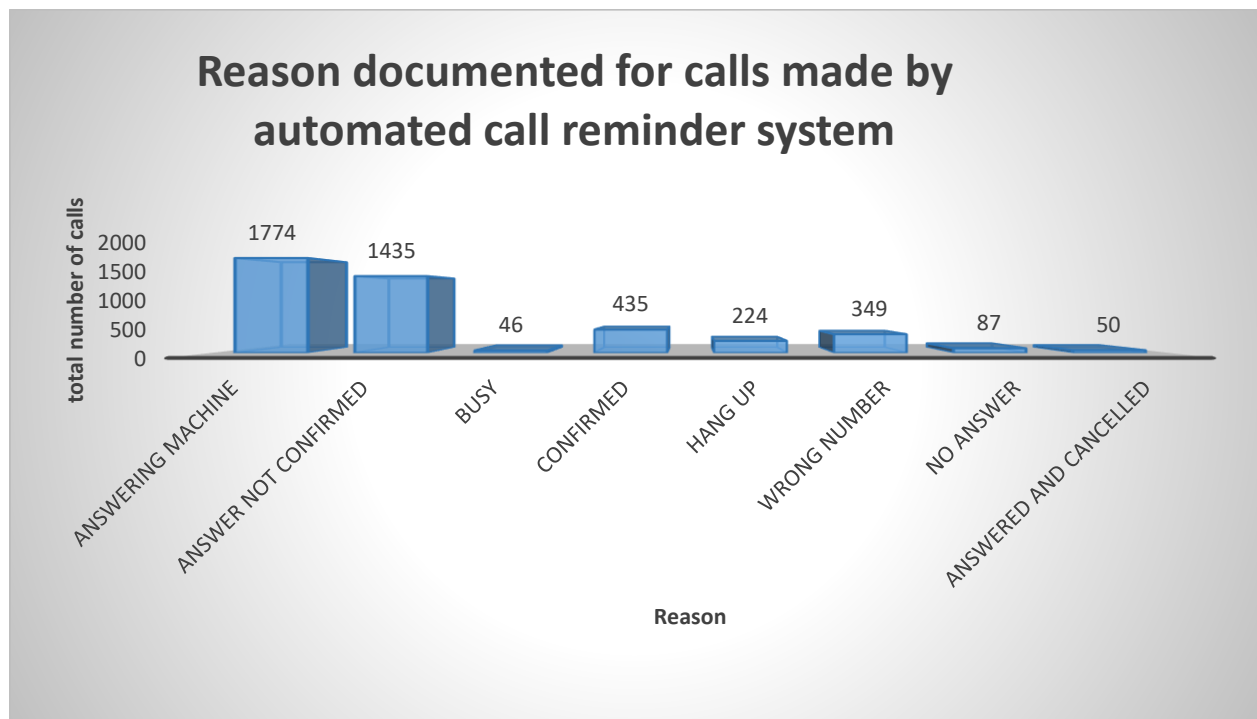**No Shows (Jul-Dec)**

13%
87%

■ CONFIRMED
■ UNCONFIRMED

Inference : The above graph shows that the number of no shows after confirmation in much less than the number of no shows which are not confirmed. And this is constant throughout the year.

3.1 Reasons recorded by automated call reminder due to which patients were not reminded

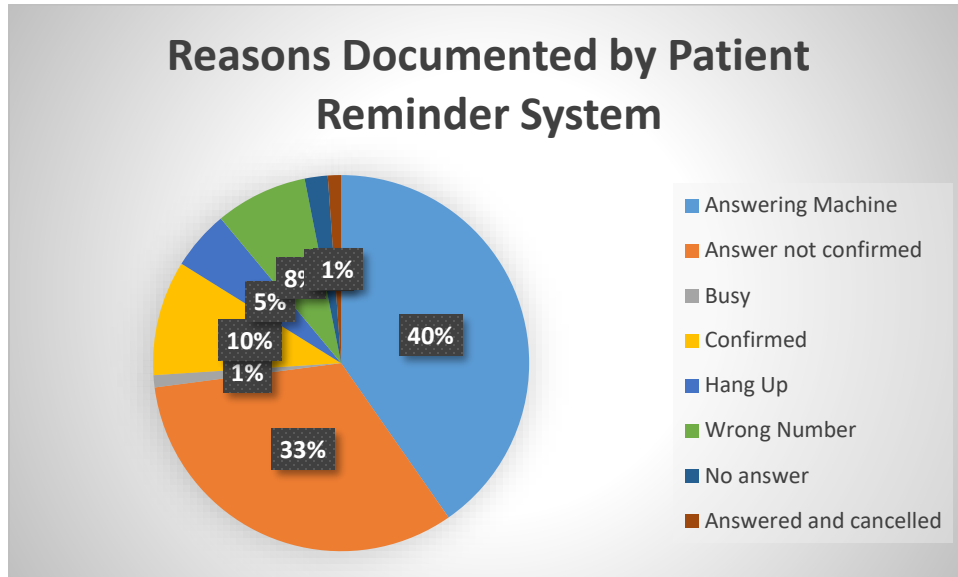3.2.a Frequency of reason documented by automated call reminder

Reason Documented	Frequency	Percentage
Answering Machine	1774	40.32
Answer not confirmed	1435	32.61
Busy	46	1.05
Confirmed	435	9.89
Hang Up	224	5.09
Wrong Number	349	7.93
No answer	87	1.98
Answered and cancelled	50	1.14
Total	4400	100

3.2 Shows frequency of calls done and reason documented.

Inference :This diagram shows the total number of calls made were 4400 by the automated call reminder.

• Highest number of patients have not received the call.

• Only 435 patients have confirmed the appointment.

• By the automated call reminder system we could reach and remind only 1920 patients which is a very less number.

• 2480 ptients could not be reached to remind them about their appointments.

3.2.b Represents the percentage of reason documented.by automated call reminder

Reasons Documented by Patient Reminder System

- Answering Machine
- Answer not confirmed
- Busy
- Confirmed
- Hang Up
- Wrong Number
- No answer
- Answered and cancelled

40%, 33%, 1%, 10%, 5%, 8%, 1%

Inference

- The diagram shows 40% of confirmation reminders were left to the answering machine.

- No reminders were sent at all for the appointment that turned out to be no shows.

- Confirmed appointment just turned to be 10%.Rest all were because patient was either not approachable due to wrong number(8 %) or because patient has not answered the call(1%)/ hanged up the call(5%).

- The diagram 2.1.a and 2.1.b represents that no shows are largely found on the patient who did not confirm the appointments.

- 57% of patient could not be reached and were not reminded of their appointments.

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Findings and Discussion

1. No show appointment accounts for only 4% of the total appointment scheduled.

2. It has been observed that confirmation has reduced the No shows as already Confirmed appointment accounts for 13% whereas not confirmed accounts for 87%.

3. Patients are being reminded of their appointment through automated call reminder system which has decreased the no shows to some extent. But some patient could not be reached because of wrong number, not answering the call ,hang up etc.

4. Only 43% patients were reminded from the automated call reminder system used ,still 56% patients were not reminded of their appointments.

5. As derived from the 2.1.a and 2.1.bdiagram , mostly patients who miss their appointment are those who have not confirmed their appointments.

6. For reminding the patient about their appointments different ways can be used.

Recommendation

Patient education:

Patients should be educated at the time of scheduling of an appointment about the importance of not missing an appointment so they understand their responsibility towards the organization.

Providers can educate the patient to show up for the follow up visits. It can leave an impact on the patients

Patient portals

As 8% was the patients with wrong number, patient portal can be made where the patient could log in and change his/her phone number details so that they can be reached easily

Reminders

The positive effect of patient reminders was clinically proven in a University of Pennsylvania School of Medicine study involving 80 patients, half of whom were reminded of their scheduled appointment the following day. The other half received no communication. The results revealed that there was a significant improvement in attendance rates among those who received a reminder call.[11]

Reminders can be sent through:

❑ Messages: Text message can be sent to the patient with scheduled appointment.

❑ E- mails: Emails can be sent to the patient

❑ Apps can be build for the same where patient can login and notifications are sent to the patients about their scheduled appointment

1) Body of the text message/Email should start with Greetings for the day, followed by some lines on their health problem and its future complication followed by date and time of provider.

2) We can also provide two links at the end of the text message so that the patient can confirm the appointment by clicking on the first link and cancel the appointment by clicking on the second link.

3) This will be convenient process for the patient to confirm or cancel the appointment.

- The patients who are continuously not attending their appointments after scheduling for about 3 times , they should be identified by the scheduler by adding a icon or flag .So that next time when they schedule an appointment they should be given an appointment which is before the end of the day so that it does not affect the provider's schedule.

- Patient who did not turn up for 5 or more times after scheduling an appointment must be asked to visit as a walk in.

- Waiting list should be maintained properly so that as soon as an appointment is cancelled , an appointment for te patient in waiting list can be scheduled.

Conclusion

• Patient reminder system helps in reducing the no shows by reminding the patient about their appointments.

• As no shows are only 4% because of the automated call reminder used by the clinics and hospitals in USA.

• Patient missing the appointments even leads to loss in the revenue and reducing just 1% to the total no shows can increase the revenue by approximately $200000 as mentioned by MGMA that each new visit can add $100 to the revenue

• Patients don't get the care they need

• The myriad of reasons why your patients may not be showing up for their doctor visits — money, nerves, or a lack of convenience or appointment availability all can play a role. And these missed appointments have very real, negative implications for their health. The scope of the problem is enormous: Some 49 million adults skipped recommended care in 2012 because of cost alone.

Patient satisfaction takes a hit

It's not just the cancellation or no-show who is negatively affected by a missed appointment — the health of other patients, not to mention their opinion of the practice, suffers too. That's because every missed appointment could have been filled by another (potentially ill) person, increasing the length of time that patients have to wait to see the doctor. Missed appointments cause longer wait times, and vice versa.

• Your staff loses valuable time

when patients do call to let a practice know that they won't be able to make their appointment,

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the great scramble to fill the now-vacant appointment begins. If there is no good system in place to keep track of people on the waiting list hoping for an earlier appointment, the result could be duplicative phone calls, double-booking, or worse, patients could fall through the cracks.

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