IMPACT OF INTERNET BASED APPLICATION SYSTEM TO IMPROVE UPON HEALTHCARE DELIVERY SYSTEM AT HEALTHCARE AT HOME

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INTRODUCTION

This dissertation seeks to quantify various aspects of the transformation of the health care industry as a result of information technology use. Health technology is defined by the World Health Organization as the "application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures and systems developed to solve a health problem and improve quality of lives. This includes the pharmaceuticals, devices, procedures and organizational systems used in health care. Many health-related processes are being reshaped by the Internet.

The study also suggest that the implementation of health information technology into the health care system truly is a multi-faceted, multi-level phenomenon that formulates a significant relationship at all levels of healthcare system. Probably the most salient issue for patients is the topic of privacy and security of personal medical information.

Objectives:

- To know how health technology system is acting as a link between patient health and Home care services.
- To know the outcome of health based application system on patient health.

Parameters to be assessed on:

- Functional outcomes and quality of life at HCAH and other Home care providers.
- Nurse work environment.

Research design:

- Descriptive

Research procedures adopted:

- Observational data collected and reviewed.

Other Homecare service providers

Major homecare service providers are Portea provide trusted in-home Doctors, Physiotherapy professionals, Nursing specialists, Diagnostics services,, Zoctr is a home healthcare aggregator platform that integrates several health services like doctor appointments, home health services, remote monitoring services, laboratory, pharmacy, medical equipment, telehealth, and ambulatory support.

Vatsalya is a centre for oral healthcare and recently launched its 24/7 emergency home dental care services.

Care24, They have a network 24×7 nurses, attendants, and certified physiotherapists, who help individuals through the rehabilitation process.

Zozzis is a Hyderbad-based home healthcare startup that works as a local health aggregator connecting users with the best doctors who can reach their home in the shortest possible time; and otherx

Patient Registration Model

TS	• Lead generated
TS	• T S books the assessment booking
TS	• Auto Registration in PCS & email sent to CS, TS, Ops,
OPs	• Scheduled a initial assessment visit
TS	• Call the ops unit head Nurse
OP	• Assign a Nurse for initial assessment

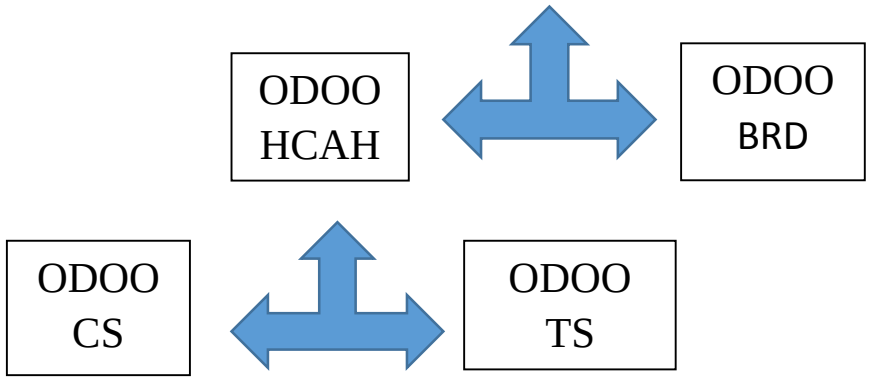
Ops	• On the basis of physical examination Initial report prepared
TS	• Initial report email to TS
TS	• TS call the customer again ,
OPs	• If patient Agree
TS	• If staff available than send a mail to CS for FCF
OP	• FCF done by CS

TS	• Welcome call by CS and FCF done by CS
TS	• Service package created by CS
TS	• Unit Ops add the required number of visits
TS	• Coordination with staff (N/P/other) and vendor
OPs	• Visit assigned by local nursing manager /NSV
OPs	• If patient/ NOK want report
TS	• CET will make HVR
OP	• HVR send it to NOK/ Pt/ Dr (depend on id availablity)

TS	• CET by compiling daily submit report by respective staff
TS	• CET also call to the staff directly
TS	• HVR report prepared
TS	• HVR will automatically updated In PCS
OPs	• Final HVR submitted at the and of treatment
OPs	• Invoice generated by finance and CS send it to patient by pcs

FUNCTIONAL OUTCOME AT HCAH

ODOO HCAH



ODOO is an application which contains complete patient information and its NOK, it is somewhat similar to Patient care support system but holds a totally different importance and the major department which uses ODOO is the Tele-sales and Customer Support.

FUNCTIONAL OUTCOME AT HCAH

ODOO

Functional outcome of Healthcare at Home is achieved via various technological advancements and these advancements are brought in to smoothen down the process flow and track the entire journey of our patient from the patient's first call to the last visit taken place at the patients place. ODOO is an integrated web based application system with Patient Care support system developed and designed especially for HCAH. ODOO plays a major role in streaming down all the leads from various sources and aligning all the leads received from various sources for the conversion of the package. Various sources from which leads are received and automatically updated in ODOO are via Google, Facebook, Just dial, Employee referral, Patient referral, Business Development Team and others. These leads are automatically scanned online and raised on the agents screen as soon as he/she logs in ODOO. Agent is the person who works directly on ODOO and works on the leads received.

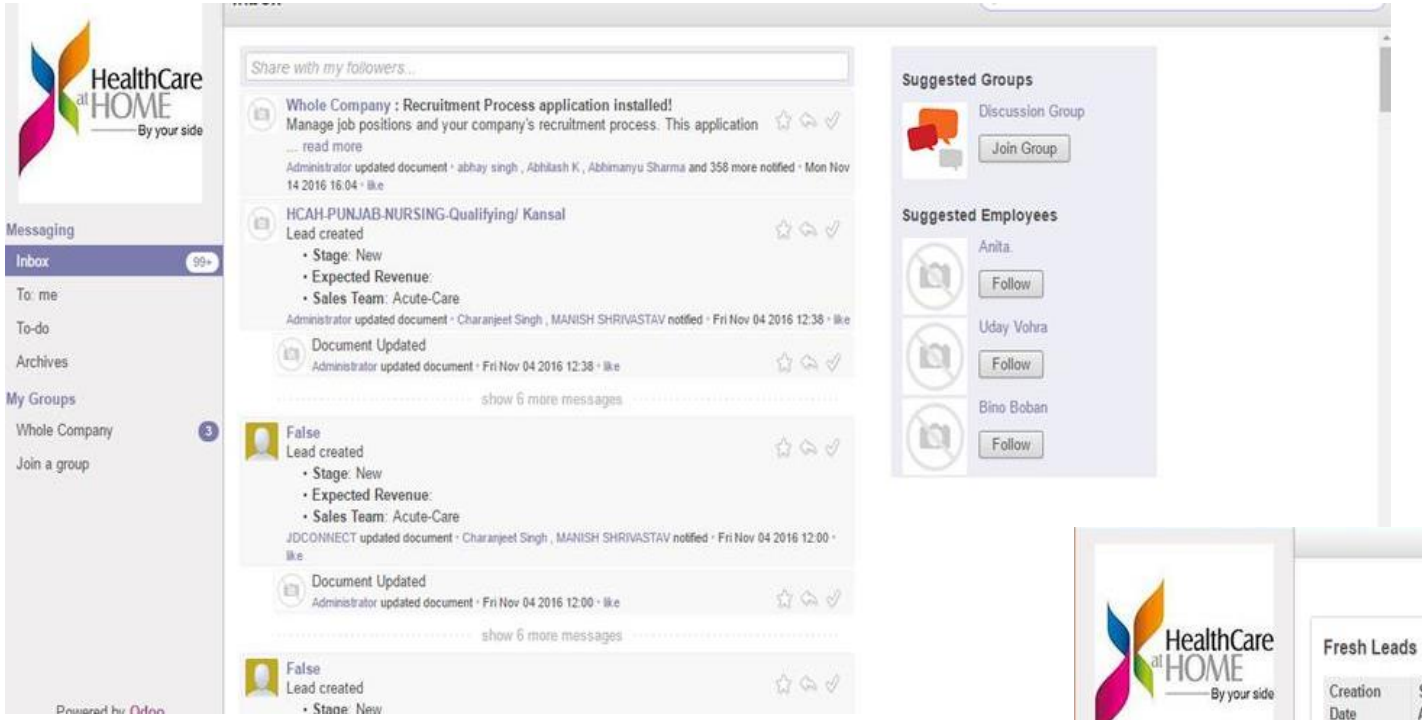


Figure: Fresh Leads display

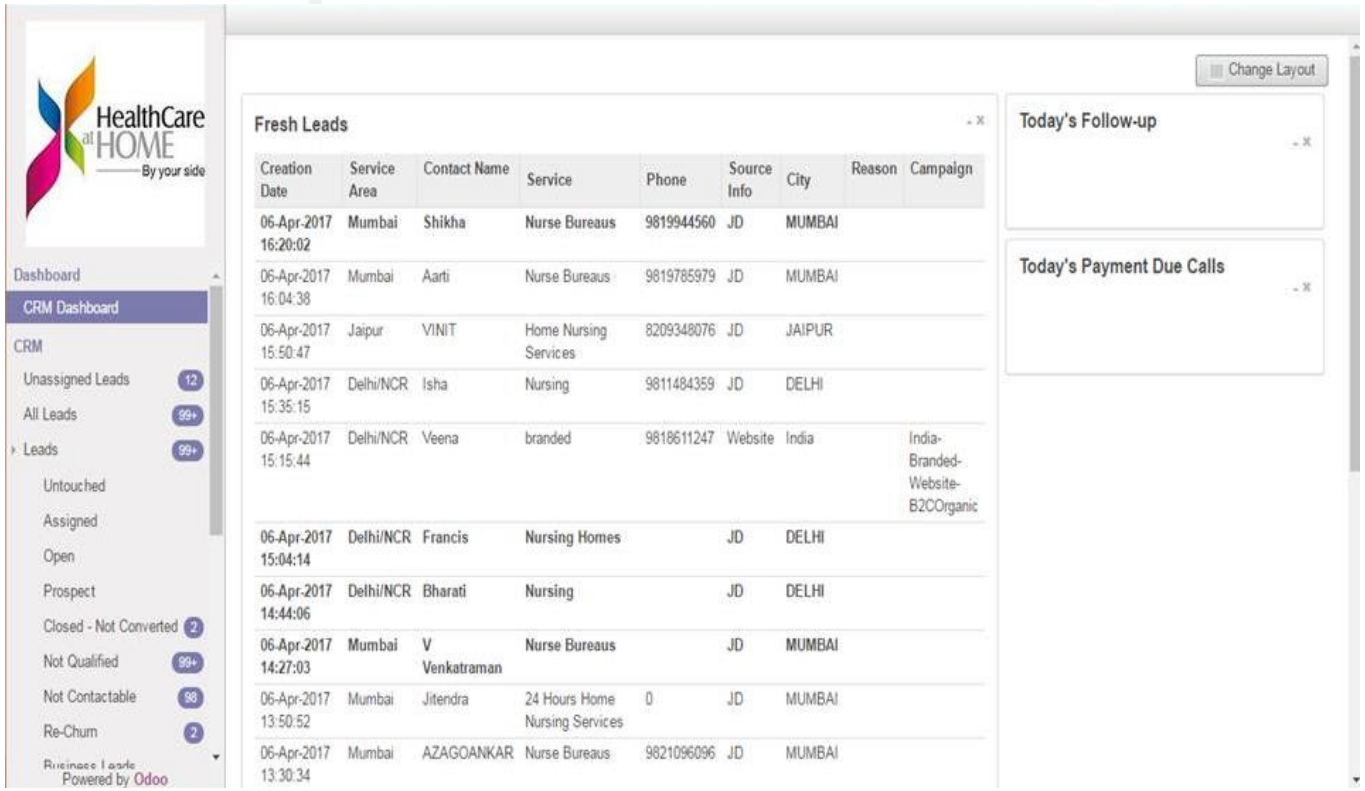
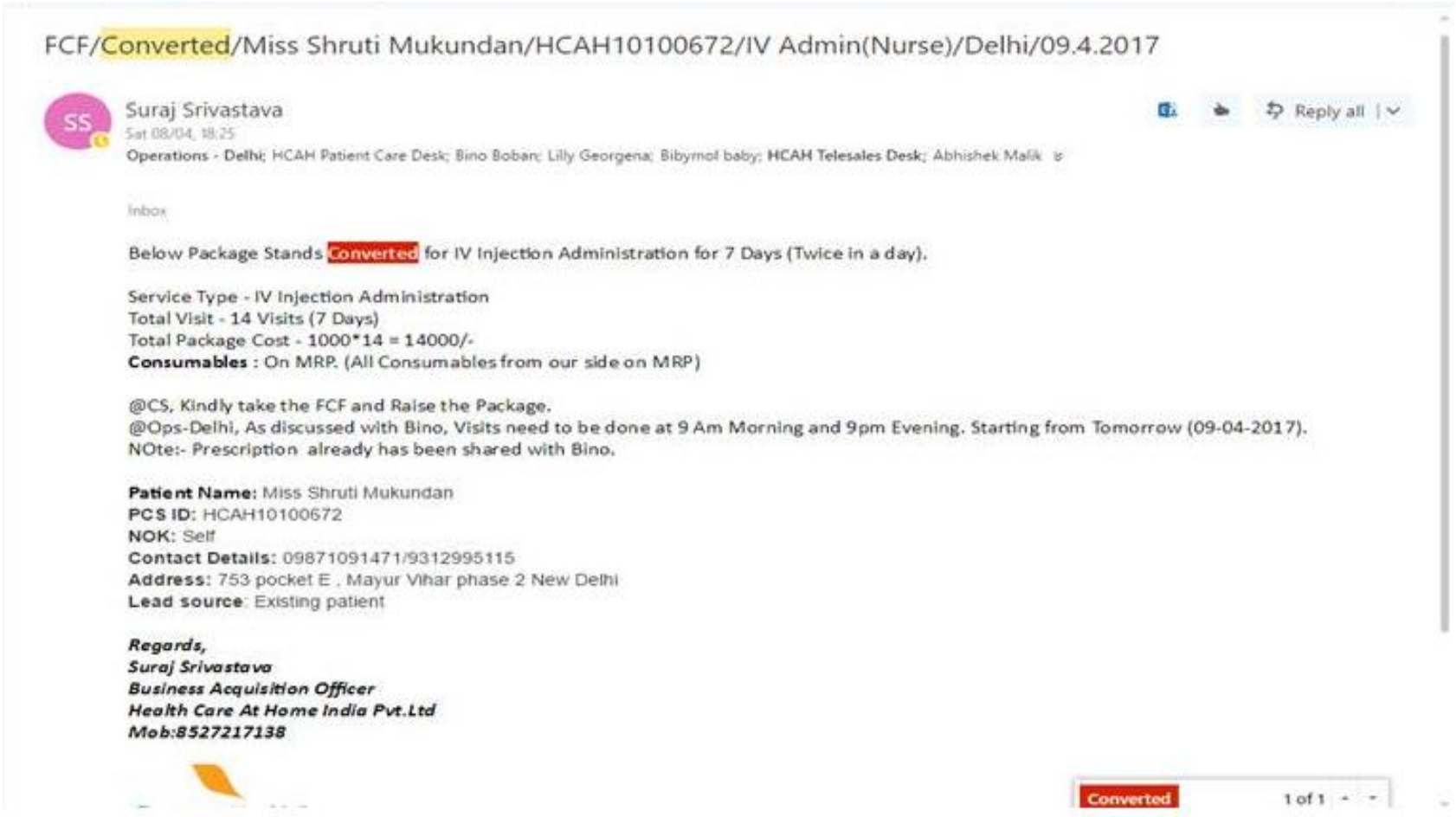


Figure: CRM dashboard displaying fresh leads



FCF/Converted/Miss Shruti Mukundan/HCAH10100672/IV Admin(Nurse)/Delhi/09.4.2017

Suraj Srivastava
Sat 08/04, 18:25
Operations - Delhi; HCAH Patient Care Desk; Bino Boban; Lilly Georgena; Bibymol baby; **HCAH Telesales Desk**; Abhishek Malik

Reply all

Inbox

Below Package Stands Converted for IV Injection Administration for 7 Days (Twice in a day).

Service Type - IV Injection Administration
Total Visit - 14 Visits (7 Days)
Total Package Cost - 1000*14 = 14000/-
Consumables : On MRP. (All Consumables from our side on MRP)

@CS, Kindly take the FCF and Raise the Package.
@Ops-Delhi, As discussed with Bino, Visits need to be done at 9 Am Morning and 9pm Evening. Starting from Tomorrow (09-04-2017).
NOte:- Prescription already has been shared with Bino.

Patient Name: Miss Shruti Mukundan
PCS ID: HCAH10100672
NOK: Self
Contact Details: 09871091471/9312995115
Address: 753 pocket E , Mayur Vihar phase 2 New Delhi
Lead source: Existing patient

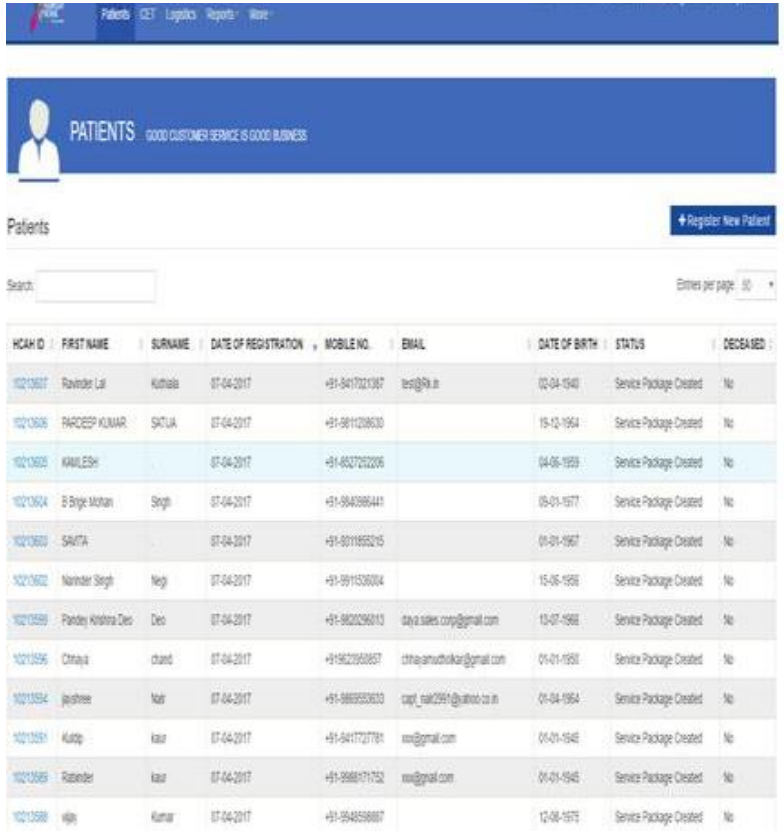
Regards,
Suraj Srivastava
Business Acquisition Officer
Health Care At Home India Pvt.Ltd
Mob:8527217138

Converted 1 of 1

Figure: Creation of new package by TS send to CS.

Patient care support system:

Patient care support system (PCS), is a web based application system which is specifically developed for HCAH and employees to act as a link between the patient and the organisation.



PATIENT INFORMATION	
Name of Patient	MrsXyz Uvw
PCS ID	10214032
Gender	male
Date of Birth/Age	1945-01-01 /
Phone No.	+91-0000000000
Email Id	Xxx@gmail.com
Name of Caller/Relationship	ABC / Son
Phon No. of caller	+91-0000000000
Email id of Caller	Xxx@email.com
MEDICAL INFORMATION	
Diagnosis	Tkr
Service Required	Physio
ASSESSMENT INFORMATION	
Assessment Place/Address of Patient	123Xyz Delhi 011001 India
Assessment Date	2017-04-12
Time Frame	12:00:00 to 13:00:00
OTHER INFORMATION	
Lead Source	Staff
Hospital Details	
Doctor's Name	
Note for Visiting Staff	CCU patient.

Figure: Auto Registration in PCS and HCAH ID and notification mail is send to operations, CS, and Unit Heads

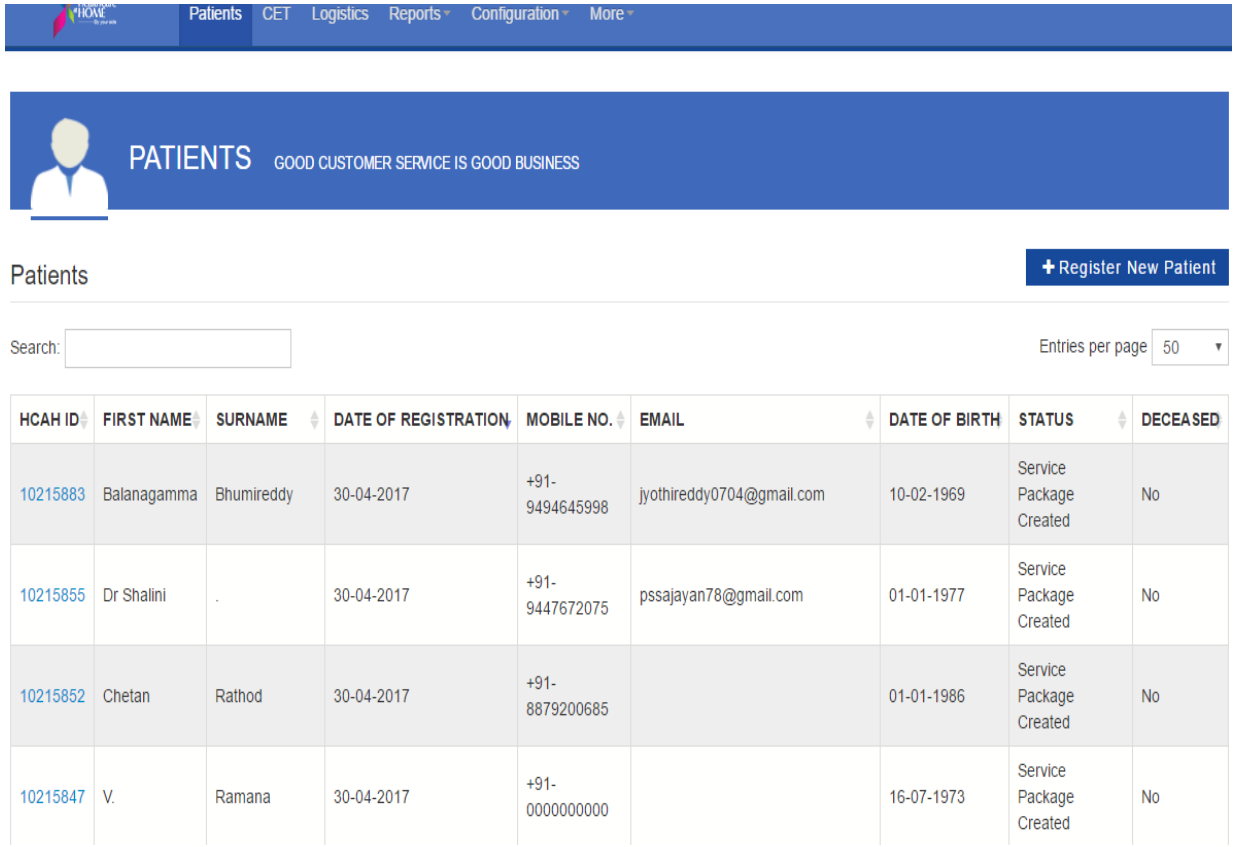


Figure: Patient information is displayed once an employee is logged in.

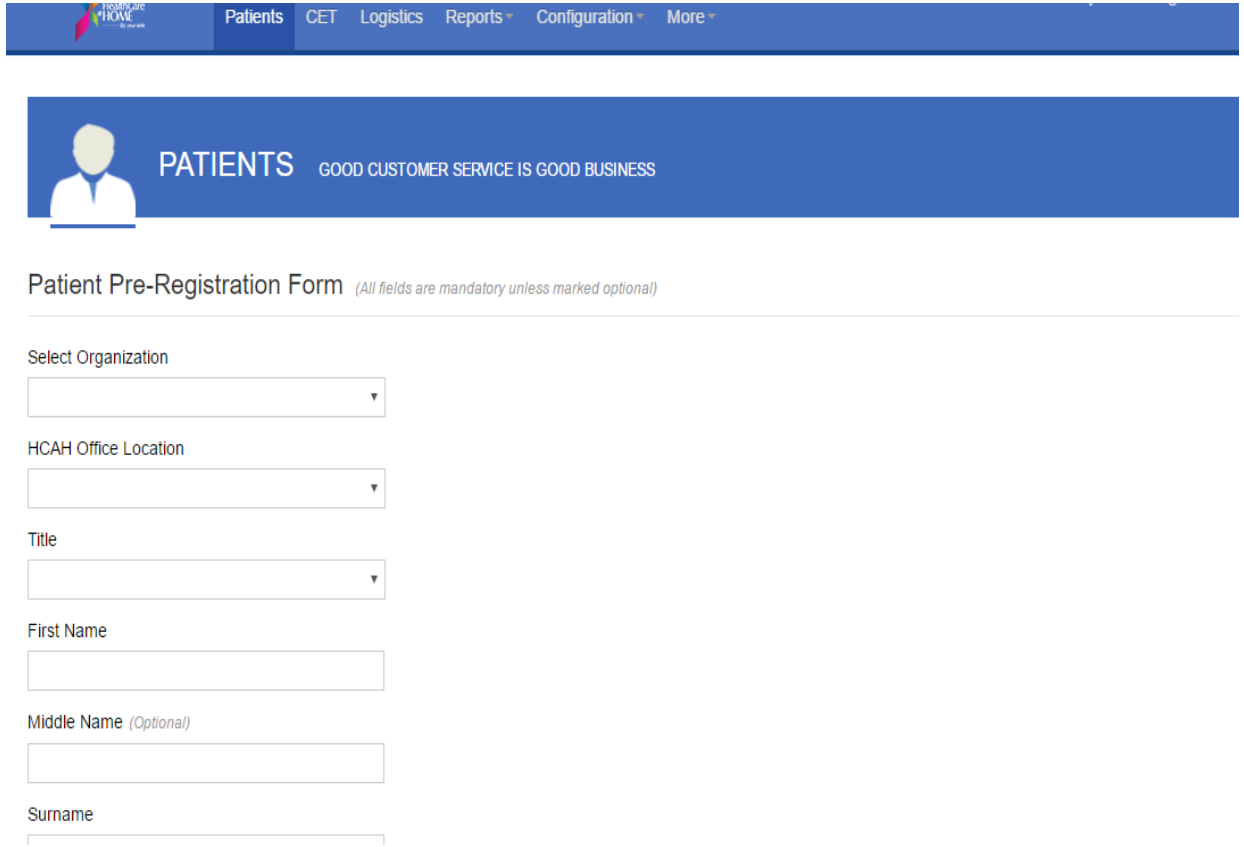


Figure: Patient information fill in tab.

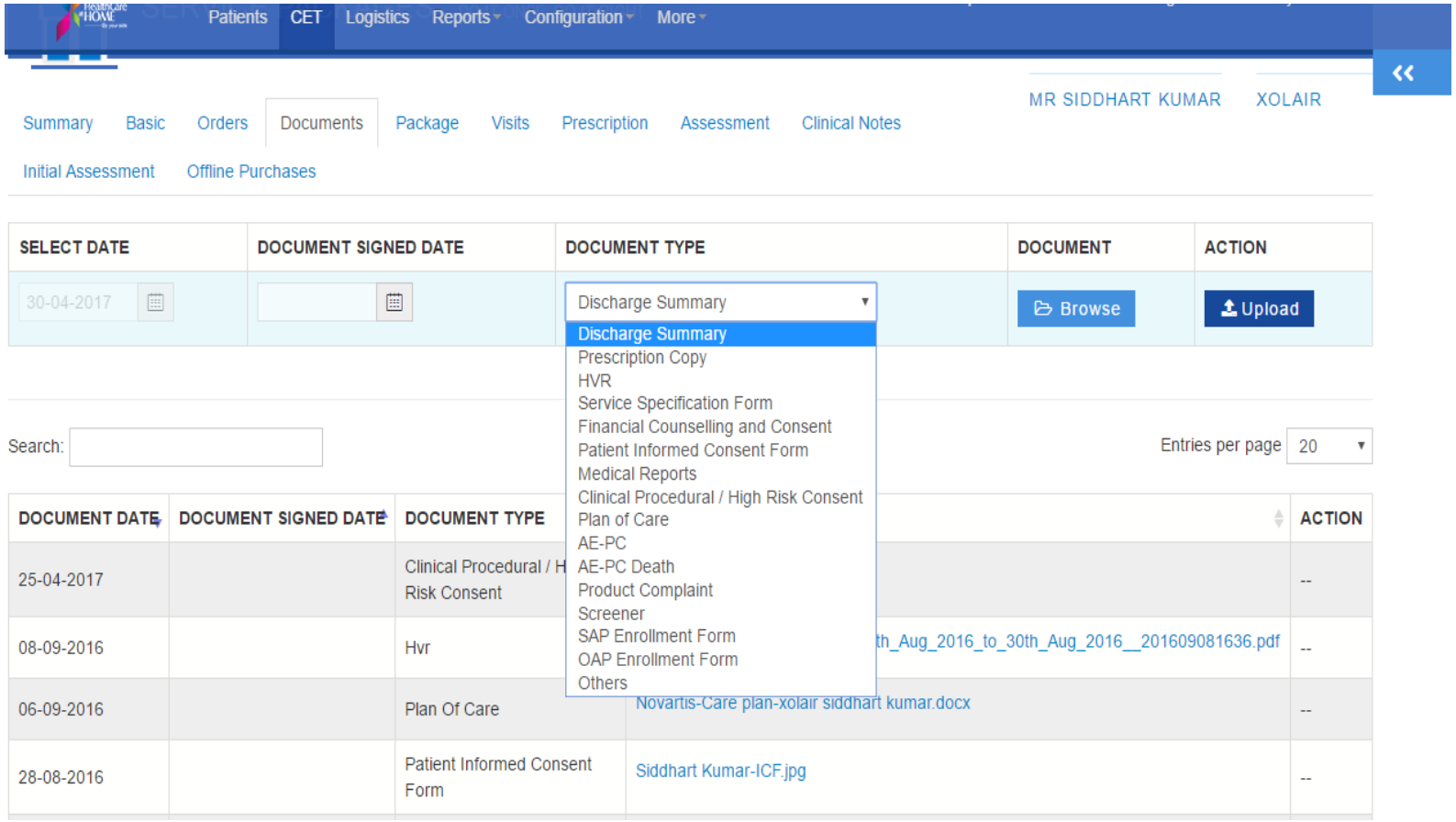
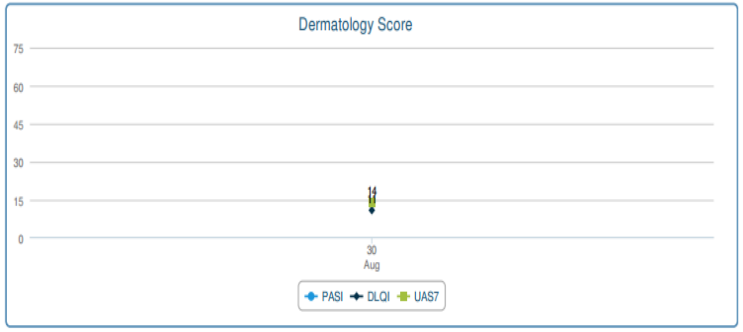
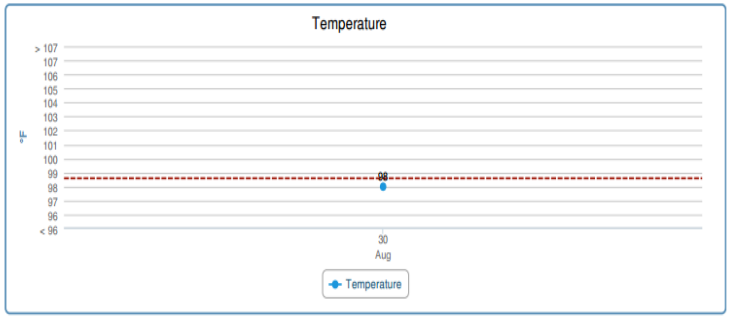


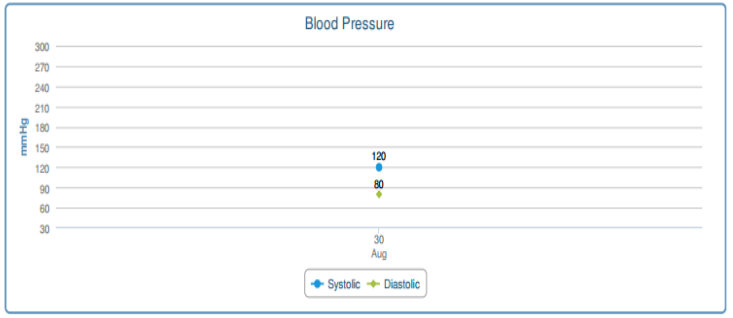
Figure: Uploading of patient documentation tab.

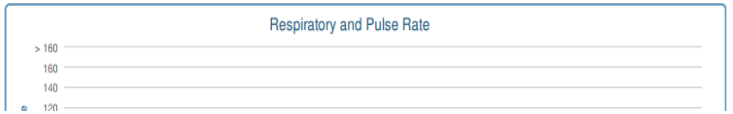
HOME VISIT REPORT

Patient Health Chart









Nursing Summary

Key Points

- **Diagnosis**:
  - CSU
- Patient's general condition is stable
- Vital signs are with in normal limit
- **Injection** :
  - Inj. Xolair 300 mg s/c
- **Site** -
  - Deltoid region

Response to Treatment

- First dose of Inj. Xolair 300 mg reconstituted and administered subcutaneously on 30/08/16
- Post administration monitoring done
- **On Examination**
  - **First dose**
    - **UAS7 -14**
    - **DLQI -11**

Drug/Blood Administration

30th August 2016

Inj. Xolair	**150 mg**	**S/C**	in **Water For Injection**	**1.4 ml**	over **5 mins**	**Other**	**07:45 PM**
S0001			S0112				
03-07-2019			01-05-2020				
Inj. Xolair	**150 mg**	**S/C**	in **Water For Injection**	**1.4 ml**	over **5 mins**	**Other**	**07:50 PM**
S0001			S0112				
03-07-2019			03-05-2020				

Care Plan Table prepared by Clinical Staff Visiting the patient

Patient Details:

HCAH No		Name:		Age:21/Male	Surgery Details:
Date of Surgery:		Hospital admission date:		Hospital discharge date:	
Service Start Date:30/08/2016		Estimated days on service:			Diagnosis :CSU

HEALTH CARE AT HOME INDIA
DRUG ADMINISTRATION CAREPLAN

ESTIMATED TIME FOR SERVICE: **MIN**

	Nursing care required – tick Nurse and/or Physio required	DAY 1		DAY 2		DAY 3		DAY 4		Day 5		Day 6		Day 7	
		Nurse		Nurse		Nurse		Nurse		Nurse		Nurse		Nurse	
Drug	Injection site Assessment	Y													
	Skin Test														
	Premedication														
	Drug Name –Inj.Xolair 300 mg S/C as per prescription	Y													
Diet and nutrition	Dietary and nutrition assessment and advice	Y													
Psychological care	Patient assessment	Y													
	Referral to appropriate support services	Y													
	Lifestyle change support and advice	Y													
Mobilisation/ ambulation	Mobility assessment	Y													
	Exercise and mobility advice	Y													
Assessment and education	UAS7 and DLQI	Y													

SPECIAL INSTRUCTIONS:-

1. Collect prescription
2. Take consent for injection administration procedure
3. Reconfirm the dose, route, frequency, expiry and contents of the drug
4. Reconstitute the medicine
5. Administer Inj. Xolair S/C as per prescription
6. Monitor vital signs before and after the drug administration
7. Monitor for any side/ adverse effects during and post drug administration for 2 hours
8. Report AE in case of any adverse events
9. Educate the patient regarding self-monitoring of UAS7 score and DLQI score
10. Repeat the same care plan for every injection
11. Take Photographs of affected area

INVESTIGATIONS NEEDED:

IF YES

TYPE OF INVESTIGATION	WHEN TO BE DONE

Functional outcome at other homecare services

Portea is also using technology to manage a remote workforce, standardise processes and seamlessly integrate the offering for patients by providing them with a consolidated view of everything, they are using point-of-care devices and remote monitoring equipment at patients' homes. When Portea clinicians visit a patient, they use diagnostic tools that capture patient data, which is uploaded through smartphones to an EMR platform. This platform then uses predictive analytics to analyse health trends and take steps like getting a doctor to monitor the patient regularly if the trend indicates that the patient's health is deteriorating.

The team not only usees traditional means of spreading the word like print, radio and outdoor campaigns, but also organized camps at apartment complexes and corporate offices.

Nurse work environment

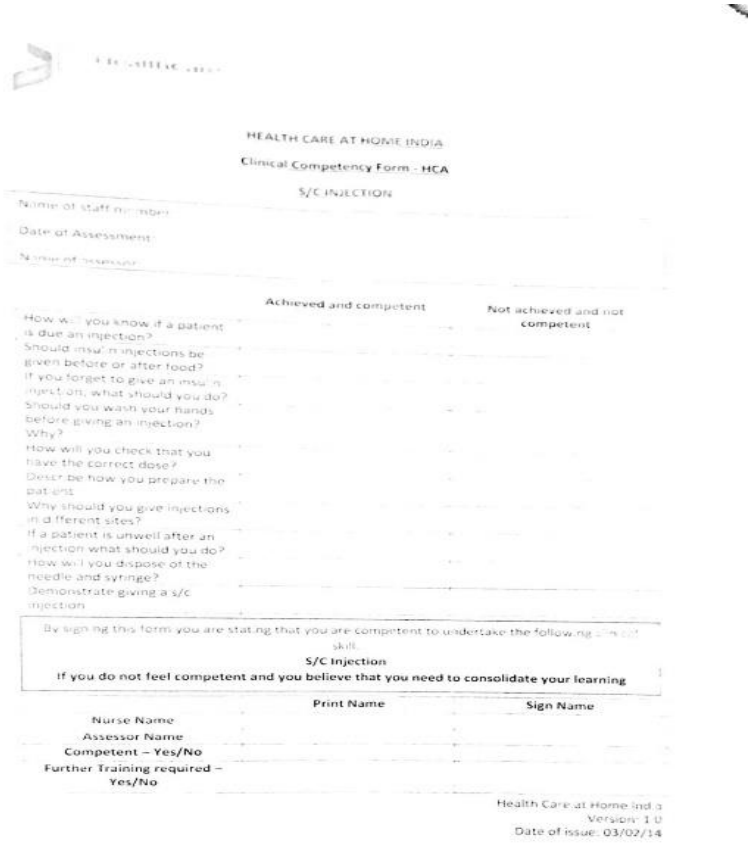
The Residents' Bill of Rights

The Nursing Home Reform Act established the following rights for nursing home residents:

- The right to freedom from abuse, mistreatment, and neglect;
- The right to freedom from physical restraints;
- The right to privacy;
- The right to accommodation of medical, physical, psychological, and social needs;
- The right to participate in resident and family groups;
- The right to be treated with dignity;
- The right to communicate freely;
- The right to participate in the review of one's care plan, and to be fully informed in advance about any changes in care, treatment, or change of status in the facility; and
- The right to voice grievances without discrimination or reprisal.

An employee's work environment plays a larger role in the ability to provide quality care. The atmosphere of a facility is critically important. It impacts everything from the safety of patients and their caregivers to job satisfaction. Studies consistently show how work environment issues, such as nurse staffing, are linked with patient outcomes, length of stay, and chance of death. Healthcare at Home focuses on providing a healthy and safe work environment to all their nurses.

A healthy nurse is the one who actively focuses on creating and maintaining a balance and synergy of physical, emotional, social, spiritual, personal and professional wellbeing. A healthy nurse lives life to the fullest capacity, across the wellness/illness continuum, a nurse becomes a stronger role model, advocating, and educating, personally, to their families, their communities and work environments, and ultimately for their patients.



HEALTH CARE AT HOME INDIA

Clinical Competency Form - HCA

S/C INJECTION

Name of staff member:

Date of Assessment:

Name of assessor:

	Achieved and competent	Not achieved and not competent
How will you know if a patient is due an injection?		
Should insulin injections be given before or after food?		
If you forget to give an insulin injection, what should you do?		
Should you wash your hands before giving an injection? Why?		
How will you check that you have the correct dose?		
Describe how you prepare the patient		
Why should you give injections in different sites?		
If a patient is unwell after an injection what should you do?		
How will you dispose of the needle and syringe?		
Demonstrate giving a s/c injection		

By signing this form you are stating that you are competent to undertake the following clinical skill:

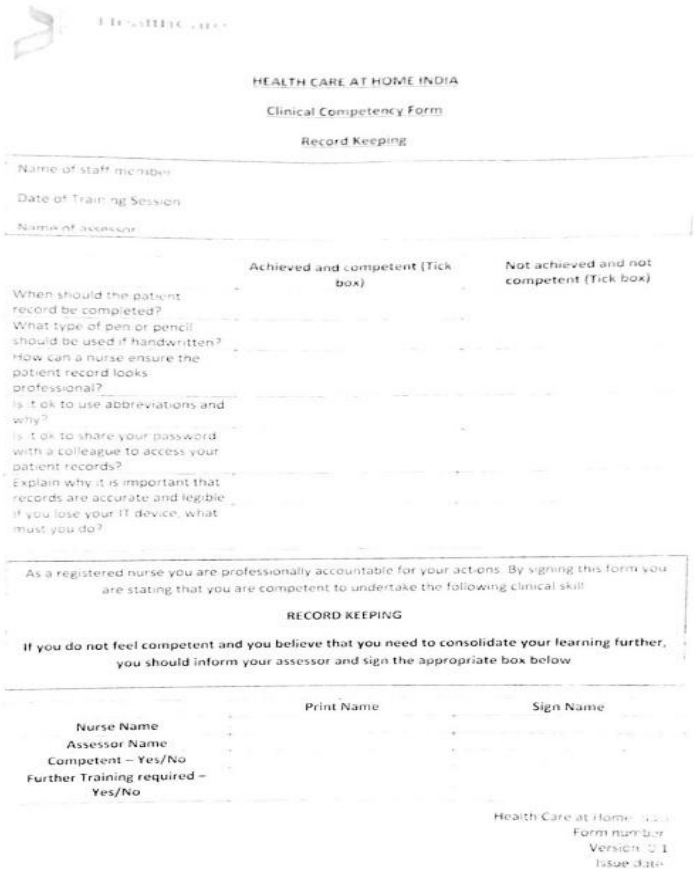
S/C Injection

If you do not feel competent and you believe that you need to consolidate your learning

	Print Name	Sign Name
Nurse Name		
Assessor Name		
Competent – Yes/No		
Further Training required – Yes/No		

Health Care at Home Ind a
Version: 1.0
Date of issue: 03/02/14

Figure: Training Assessment on Injection



HEALTH CARE AT HOME INDIA

Clinical Competency Form

Record Keeping

Name of staff member:

Date of Training Session:

Name of assessor:

	Achieved and competent (Tick box)	Not achieved and not competent (Tick box)
When should the patient record be completed?		
What type of pen or pencil should be used if handwritten?		
How can a nurse ensure the patient record looks professional?		
Is it ok to use abbreviations and why?		
Is it ok to share your password with a colleague to access your patient records?		
Explain why it is important that records are accurate and legible		
If you lose your IT device, what must you do?		

As a registered nurse you are professionally accountable for your actions. By signing this form you are stating that you are competent to undertake the following clinical skill:

RECORD KEEPING

If you do not feel competent and you believe that you need to consolidate your learning further, you should inform your assessor and sign the appropriate box below

	Print Name	Sign Name
Nurse Name		
Assessor Name		
Competent – Yes/No		
Further Training required – Yes/No		

Health Care at Home
Form number:
Version: 0.1
Issue date:

Figure: Clinical Competency Forms on Record Keeping

The Benefits of Nursing Technology

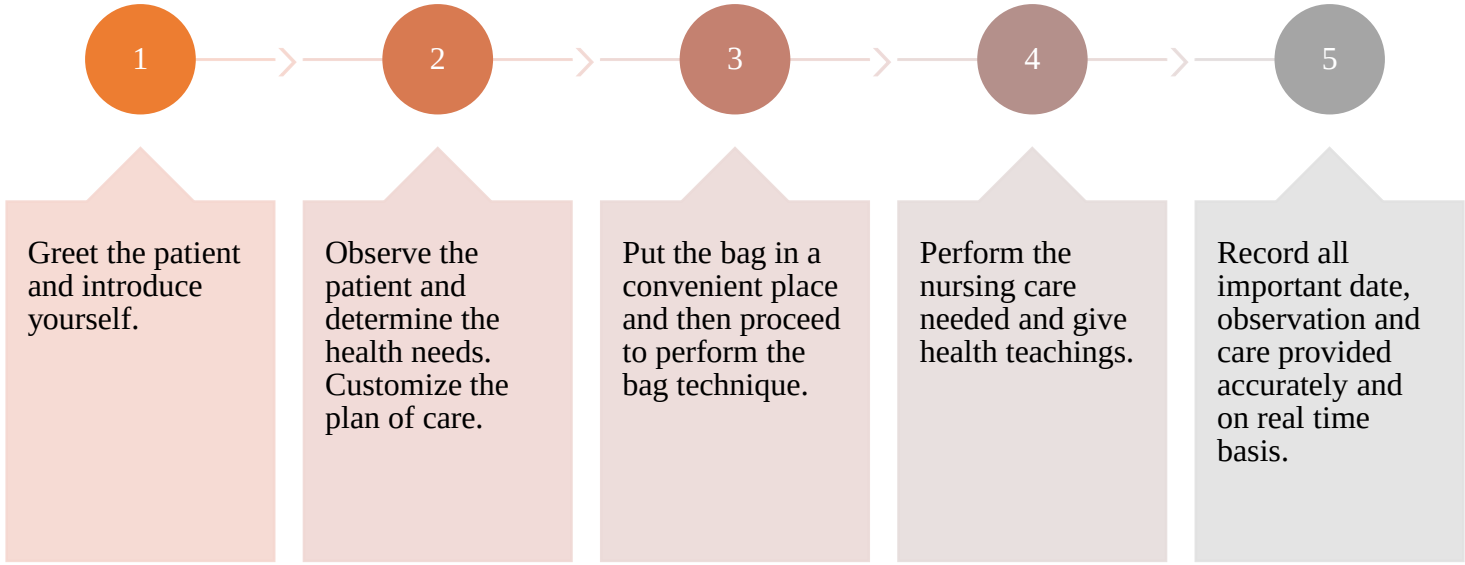
Nursing technology includes an array of devices, systems and software designed to reduce the amount of time nurses must spend on tasks such as tracking down equipment, locating and collaborating with other staff members and updating patient charts. Healthcare at home, makes sure that the nursing staff visiting the patient at his or her carries all the required and necessary equipment's with him or her. Other technology serves to improve accuracy and patient safety by reducing medical errors or accessing sensitive patient records. In addition to improved accuracy, efficiency and safety, technology also allows nurses to spend more time on direct patient care.

The **Home visit bag** is a bag carried by the nurses during specialist visit, these bags enable him/her to perform a nursing procedure with ease and deftness, to save time and effort with the end view of rendering effective nursing care to clients. It contains basic medication care and instruments which are necessary for giving care such as syringes, needles etc.

Impact of technology in Nursing at Healthcare at Home

Healthcare at Home allows the health worker to assess the home and family situations in order to provide the necessary nursing care and health related activities. In performing home visits, it is essential to prepare a customize care plan of the visit to meet the needs of the patients and achieve the best results of desired outcomes.

Steps of home visit:



Nursing Technology Can be the Key to Improving Patient Care

Many see technology as a key component to improving patient care and outcomes with features such as sensors, mobile and tablet technology and instant alerts to change in patient status. Ultimately, this technology will improve response time, increase accuracy and ensure safety. In addition to helping patients, technology can also help nurses and other clinical staff improve communication and introduce greater efficiencies in clinical workflow which frees up nurses and other staff to spend more time concentrating on delivering the best possible patient care. Social media facilitates communication and collaboration, provides news and information from professional and governmental agencies, and creates an educational forum. Nurses are embracing social media; 11% use Twitter; 77% have visited Facebook.

Payment collection process

IIHMR UNIVERSITY

Lead-TS Team

- Lead (online through TS or offline via BD) via ODOO
- Registration in the PCS

Registration

- Code creation by the unit ops in case of free initial assessment
- Conversion of the package
- PCS ID created in the name of the patient

CS Team

- Welcome call by the CS team (package details detailed to the patients NOK).
- Terms and conditions of the package detailed to the NOK and package breakdown and payment to be made with in advance before the start of the services.
- Financial consent form (FCF) is raised on the PCS system by the CS team

CS Team

- Authorization and consent form & Payment form two tickets are raised on zoho support system by CS in order to get a track of the package and resolve any sort of queries.
- Package starts when at least half of the payment is made by the patient, payment collection starts.

Unit Ops

- Payment can be collected via following routes:
- Cash, Cheque, PDC, Paytm, Card, Online transfer via pay u link or NEFT
- Continuous reminders are send to the patient after two days of the start of the package for the rest of the payment by the unit ops and the CS.

Unit Ops + Finance

- Staff from the unit is send to collect the payment from the patient if the mode of payment is offline such as via cash, cheque, PDC, card or through paytm.
- Ezetabs (payment receipts) are cut to get real time data beneficial both for the patient and the unit ops and HO.
- Finance team HO updates the details from the payment collection sheet on the PCS.

SUGGESTIONS:

- Payments should be done within 24hrs dividing into two parts 40% in advance and 60% within three days of the package sold. Till the time advance is not received services should not start.
- Tickets must be replied regularly and on time to time to avoid any out standings.
- If possible collection sheet can be updated twice in a day; before and after 2pm.
- If the NOK is willing to pay online, then till the time the transaction has not occurred services should not start.
- Drafts can also be made a mode of payment to avoid cheque bounce issues.
- Regular/Follow up meetings must be held between the unit and the HO either face to face or over a call.
- Payment should only be collected by the runners and not the staff working on the field so that payment is collected on time and collection sheet is updated timely.
- Ezetab and collection sheet should be cut and updated simultaneously.
- Closure reports must be updated on regular basis.
- Date of transaction must be mentioned on the collection sheet.
- CS must promote online transaction over the usage to cheques.

Results & conclusions:

Since my entire study was an observational and descriptive study I would like to conclude by saying that with the growing technology each one of us is changing and so is the healthcare care system around us changing, patient is more aware about the health delivery system and has knowledge of his/her treatment and does not wish to settle for less. Healthcare at Home a joint venture between HCAH UK and Daburs comes in acting as a bridge between the patient and their health. HCAH provides home services from single drug administration to complete setting up of an ICU at patients home. Technologically driven this organisation is largely effected by newer advancements in the world and believes in bringing change in its operational processes to smoothen down patient handling and making the patients journey with HCAH at ease though being technically advance makes this organisation superior over the other market competitors but the organisation believes in providing quality care so from initial assessment till the end date, each and every moment of the patient is tracked and traced so that in case of any emergency HCAH is there to cater the patient in the best possible manner, HCAH not only shares patients health report with his/her NOK but also keeps updating the patients treating doctor and keeps taking his/her advice on behalf of the patient. So overall with HCAH technologically advanced services has a great impact on patient’s life and make sure the services delivered are at its best.

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HealthCare at HOME
By your side