

PRESENTATION

BY

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PG/15/021

# PREVIEW

- PART – I      REPORT ON INTERNSHIP      AT  
CANTONMENT      GENERAL HOSPITAL, DELHI  
CANTT
- PART- II      DISSERTATION/PROJECT REPORT  
STUDY      ON      EXISTING      LEVEL      OF      I.T  
PENETRATION      IN THE MEDICAL STORES OF  
CANTONMENT GENERAL HOSPITAL

# PART-I

- REPORT ON INTERNSHIP AT CANTONMENT  
GENERAL HOSPITAL, DELHI CANTT

# INTRODUCTION

- Cantonment Board Hospitals available in all Cantts to look after the civilian population.
- DCB maintaining a 100 bedded, Cantonment General Hospital .
- Modest beginning made from one of the barracks of old Base Hospital.
- Was shifted to its present loc in 1963.
- The hospital has not developed any separate Mission, Vision or Value Statement

# FRONT VIEW OF HOSPITAL



# LAYOUT OF THE HOSPITAL

- 3 Storied building
- **Ground Floor:**
  - Reception and Registration centre
  - Emergency / Casualty
  - Orthopaedics
  - Gynae
  - Eye
  - ENT
  - Medical
  - Skin
  - Psychiatry
  - Ayurvedic OPD
  - Homeo OPD
  - Minor OT
  - Radiology(X ray & USG), ECG
  - Immunization & Injection Room
  - Family Planning Counselling room
  - Labour room
  - Physiotherapy room
  - DOTS Centre
  - Dispensary
  - Dressing Room and Plaster Room

# LAYOUT OF THE HOSPITAL

- **First floor:**

- Administration Block
- Dental
- Pathology Lab
- Medical Store
- Ayurvedic Store
- Female ward
- Conference Room

- **Second floor**

- Major OT
- VIP Rooms (06)
- Private ward
- Male ward
- CSSD

- **Basement**

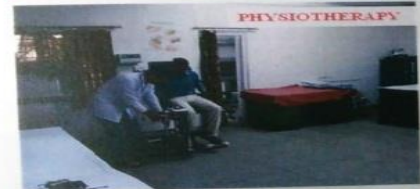
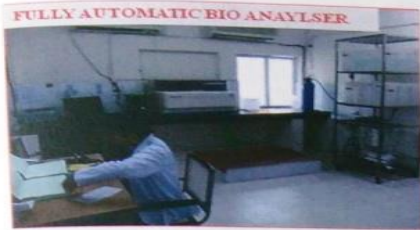
- AC plant
- Linen Store
- Furniture store
- Pump house
- Genset

# SERVICES PROVIDED BY THE HOSPITAL

- General OPD
- Dental OPD
- Specialist OPDs
- Obs & Gynae
- Orthopaedics
- Medicine
- ENT
- Ophthalmology
- Surgery
- Paediatric
- Psychiatry
- Skin
- Radiology
- Anaesthetics
- Ayurvedic OPD
- Homoeopathy OPD
- Emergency
- Major OT – 01
- Minor OT – 01
- Diagnostic Services
- Physiotherapy
- Indoor Services – IPD 100 beds



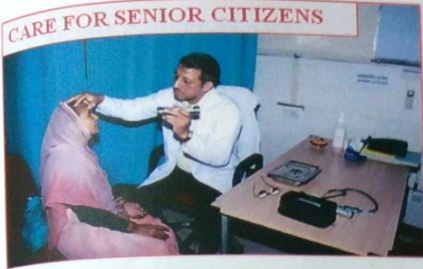
# VARIOUS FACILITIES





# VARIOUS FACILITIES

CARE FOR SENIOR CITIZENS



FEMALE WARD



FAMILY CARE DEPTT



ECG



ENT



SKIN OPD



LABOUR ROOM



PHARMACY



BIRTH/DEATH REGISTRATION



PATHOLOGY



MOBILE DISPENSARY



CRITICAL CARE AMBULANCE



# VARIOUS FACILITIES





# VARIOUS FACILITIES



# VARIOUS FACILITIES



# DISTRIBUTION OF BEDS

• Gen Medicine	16	
• Surgical Ward	16	
• New Born	03	
• Obs & Gynae (Maternity)	18	
• Paediatrics	06	
• Casualty & observation	04	
• Isolation	04	
• Post OP	18	
• ICU*	06 allotted	*(ICU under construction)
• Private Ward	09	
• <b>TOTAL</b>	<b>100</b>	

# DETAILS OF HR

The hospital is headed by a CMO

- **Permanent** –
  - Doctors -13 ( 4 including 1 x dentist) + 9 Newly inducted specialists
  - ANM – 02
  - Tech – 02
  - Pharmacists -02
  - Adm Staff – 18
- **Contractual** –
  - Docs -35 (Splst Docs -19 Addl GDMO-11, SR-3, JR-2 )
  - Nurses – 39
  - Tech -21
  - Pharmacists – 02
- **Outsourced services**
  - Security – 30 pers
  - HK and waste disp – 60 pers

# OTHER SERVICES

- Pulse Polio Immunization • B & D Registration
- Immunization Programmes
- Senior citizen
- Health Post Maternity and Immunization Services
- Kishori Clinic
- DOTS Centre
- School Health
- Special children
- Maitri (HIV/AIDS)
- Medical camps



# **TASK ASSIGNED**

- During the Internship period I was tasked to visit various departments of the hospital.
- Was provided an opportunity to learn about various aspects of Hosp, from Clinical to Administrative aspects.

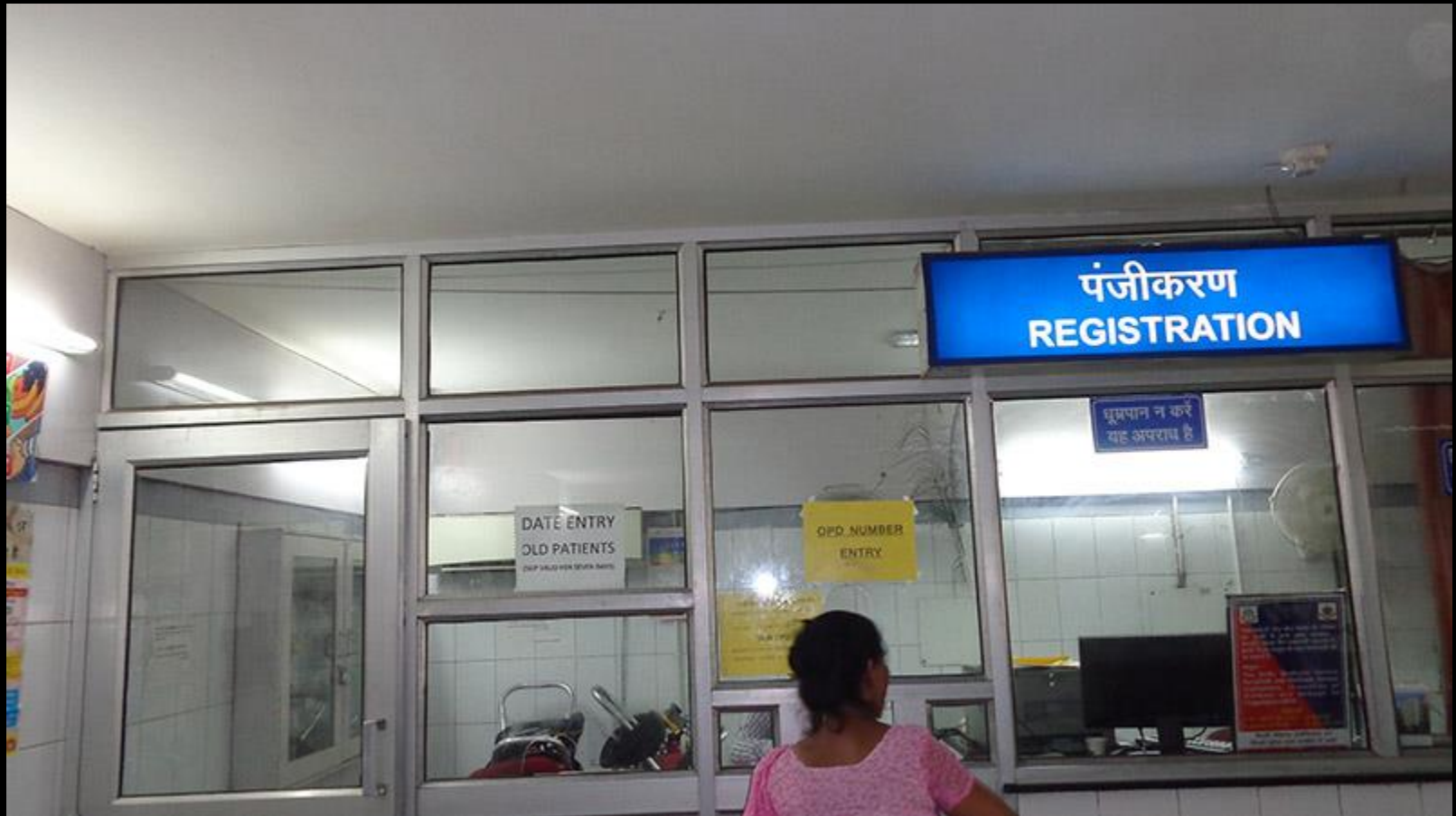
# CHALLENGES FACED

- Being a busy place, with lots of crowd, nobody has time to spare. It's your initiative & perseverance which can be of use.
- Interaction with the CMO most difficult because of public dealing w.r.t births and deaths.
- Saw a clerk having a show down with the CMO.
- Procurement for CGH dealt by DCB clerk.
- Like typical Govt organisations, organisational culture, is of postponing things.

# KEY LEARNING

- Treatment open to all.
- OPD Registration , a yellow card( payment of Rs 5/-) is physically filled and given to the patient directing him to report to the specialist or to a general physician.(validity 7 days)
- A white card issued for staff of CGH, DCB & IDES. A light green card for Senior citizens.
- Footfall of 500-800 patients from middle class / lower strata.
- OPD 0800- 1500 hrs
- Huge rush at Regn counter & OPD area . Lesser rush is seen at the Ayurvedic and Homoeopathy OPD areas as they are in different location.

# REGISTRATION COUNTER



# OPD BLOCK



# KEY LEARNING

- Patients mostly illiterate are unable to describe their problem, leading to wastage of time at the registration counter as well at the OPD.
- OPD registration number is started afresh on 1<sup>st</sup> of April, each year. The numbers run into lakhs & become unwieldy as the year progresses.
- The registration number is common for all OPDs. The OPDs don't have any separate ID other than the common Registration number given manually at the registration counter.
- ICU is not yet functional. Space has been allocated but further construction is held up for want of funds.

# KEY LEARNING

- The clerk dealing with procurement for CGH, in DCB office, is also responsible for many other institutions run by the DCB. Leads to delay in procurement of items.
- Stock out of drugs /Vendors under rate contract issued show cause notice/blacklisted/Pharmacy can issue reminders only.
- CMO is the Registrar of births & deaths for the entire cantonment area , no fixed time for public dealing.

# RECOMMENDATIONS & CONCLUSION

- Requirement of Automation at Registration, to reduce the rush and for ease of data management and billing.
- Requirement of bigger waiting area with electronic token number display system to streamline the OPD system.
- Requirement of additional sign boards .



# RECOMMENDATIONS & CONCLUSION

- Need for introduction of EMRs in the hospital.
- Citizen charter and Patient charter to be displayed .
- Reassessment of HR requirement of the hospital.
- Need to increase the ratio of Permanent vis-à-vis Contractual staff.
- Need additional Pharmacists.

# RECOMMENDATIONS & CONCLUSION

- Hospital Infection Control Committee needs to be earmarked and need to brief all concerned regularly.
- Mock drills w.r.t fire fighting and disaster management need to be periodically conducted and documented.
- Basic Pharmacy Management System software needs to be procured and installed for smooth functioning of Medical Stores.

# RECOMMENDATIONS & CONCLUSION

- The functioning of CMO is challenging with several responsibilities with no administrative powers.
- The CMO has no financial powers, financial powers are with the CEO only.
- DCB is a self financing body under the MoD. Budget allotted is limited. Many times procurement gets stalled for want of funds.
- Addl funds should be released, delegation of administrative & financial powers to CMO should be looked into.



END OF  
PART ONE



**PART- II   STUDY ON EXISTING LEVEL OF**  
**I.T   PENETRATION IN THE**  
**MEDICAL STORES OF CANTONMENT GENERAL HOSPITAL**



# RATIONALE

- Role of pharmacists has evolved from compounder & supplier of pharmaceutical products
- to that of a clinical pharmacist who is provider of Pharmaceutical care.
- Pharmacy Practice Regulations, 2015 & EHR Standards, 2016 have necessitated this study.

# REVIEW OF LITERATURE

- WHO Report 1994 - The Role of Pharmacists in the Health Care System, Modern role : Care Giver, Decision Maker, Communicator, Leader, Manager , Lifelong Learner, Teacher.
- Indian Pharmacopeia, 2014, Addendum 2016
- National List of Essential Medicines, 2015
- National Formulary of India, 2016
- Cochrane Collaboration (Database).

# REVIEW OF LITERATURE

- Pharmacy Practice Regulations,2015.
- EHR,Standards,2016 .
- A roadmap for implementation of EHR,2016 by Sunil Kumar Srivastava , Ph.D 31 Oct 2016.



# PROBLEM STATEMENT

- To study the existing level of I.T penetration in the Medical stores of Cantonment General Hospital and suggest achievable changes

# SPECIFIC OBJECTIVES

- To obtain information on the role of the present day hospital pharmacies.
- To obtain information on the level of automation and the degree of use of I.T in hospital pharmacies in India and other developed & developing countries to perform their present day role.
- To study the organisation, functions & role of the medical stores of the hospital under investigation.
- To determine the level of automation & the degree of use of I.T in Medical Stores of the hospital under study.

# SPECIFIC OBJECTIVES

- To investigate the feasibility of implementation of modern I.T in the hospital pharmacy.
- To identify the barriers in implementation of automation and adoption of modern I.T in the hospital pharmacy.
- To recommend strategies for adoption of modern I.T & automation in the hospital pharmacy.

# METHODOLOGY

- Study Setting : The study has been carried out at the Medical Stores of Cantonment General Hospital.

# METHODOLOGY

- Materials & Methods: The following methodology was adopted for the study:
- Review of Literature
- Document Study
  - Ledgers of the Consumable items
  - Indent cum issue vouchers (Convenience Sampling)
  - Indenting Procedure ( Policy document )
  - SOP for Local Purchase of Consumables

# METHODOLOGY

- **Interview with the functionaries:**  
Structured Interview with the help of a Questionnaire to obtain data regarding:
  - Organisation of Medical Stores
  - HR of the Medical Stores
  - Education Level
  - Job Description & Role
  - Availability of Computer Hardware & Software
  - View of pharmacy functionaries regarding automation & adoption of Modern I.T

# METHODOLOGY

- **By Observation** –

- Procedure to carry out various functions in the Medical Stores
- Availability of Computers & Printers
- Availability of Software
- Networking with Hospital LAN
- Availability of Automation Equipment
- Availability of Internet connection

# SCOPE OF THE STUDY

- The Pharmacy deals with all types of Medical stores – both consumables & non-consumables.
- The study is restricted to only Consumable Medical Stores.
- The aspects of functioning of Medical stores that impact the actual & potential use of I.T & automation have been studied.



# CONSTRAINTS

- Availability of time has been a constraint as this is a Single Investigator Study.
- Most quantitative data has been collected on the basis of Convenience Sampling.

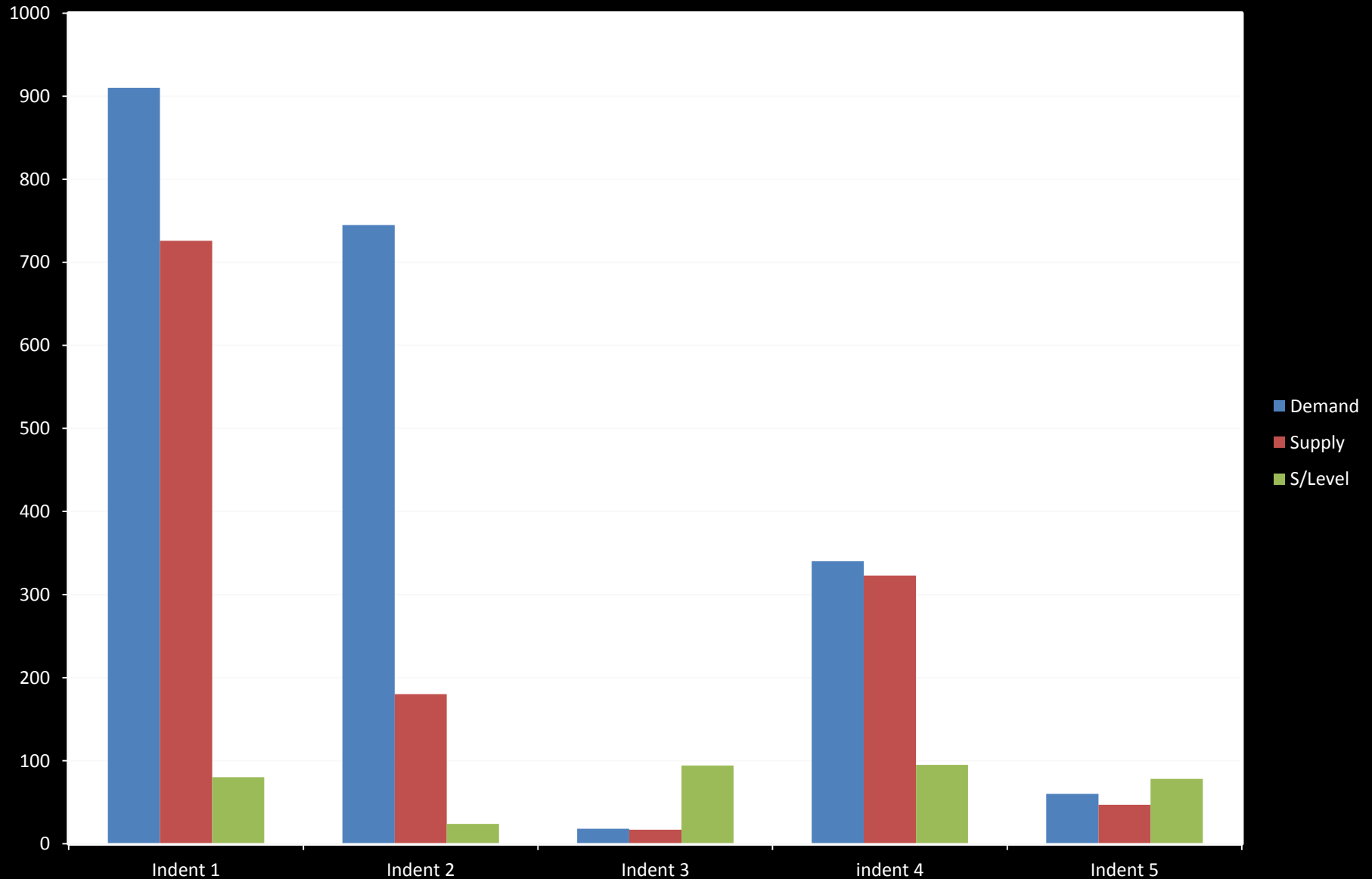
# FINDINGS

- Stock out of drugs:
  - Stock out of common drugs do occur .
  - Reminders/Show cause/black listing of vendors.
  - Details of Stock out drugs was told not to be included in the study.
  - Stock out of drugs also occurs due to paucity of funds.
- Service Level

# FINDINGS

Sr. No of Voucher	No. of Units demanded	No of units supplied	Service level
00515	18200	14520	80%
00516	14900	3600	24%
00517	356	336	94%
00518	6800	6450	95%
00519	1200	940	78%

# SERVICE LEVEL GRAPHICAL REPRESENTATION



# FINDINGS

- Traditional Role:
  - The medical stores of the hospital under study performs only the traditional role of procurement & distribution.
  - I.T is used for supporting functions of the organisation.
  - Even the compounding functions that were performed by the pharmacists are no longer in vogue in most of the hospital pharmacies.

# DISCUSSION

- Situation in Developed Countries :
  - Modern role of the pharmacists is to provide pharmaceutical care linking patient safety through medication management.
  - To discharge these functions & to practice EBM, access to I.T is essential.
  - Pharmacists are now members of the Care Delivery Team & involved in patient care for a better patient outcome .
  - The pharmacists have access to the EHR & full access to information, enabling them to plan, advice & monitor the medication management aspect of the care.
  - CPOE along with the CDSS is integrated with the Pharmacy Information Management System.

# CPOE

## Order Entry

Alarms

ADT

Layout

HIPAA

Help

Close

Facility ADL Goodsam Demo

Unit 01

Resident

CARSON, JOHN

Pic

Info

Acct: 123510 MedRecNo: 123510 Room: Admit: 11-02-03 Disch: Male Age: 95 Wgt: 149 lbs PCP:

Rx	End Date	Status
ASPIR-TRIN 325	11-10-07	ACTIVE
COLUMADIN 2.5	11-10-07	ACTIVE
LASIX 20 MG T	11-10-07	ACTIVE
ENEMA READY	11-04-07	ACTIVE
BISACODYL 10	11-04-07	ACTIVE
EGL MILK OF M	11-04-07	ACTIVE
ZYPREXA 10 M	10-26-07	ACTIVE
ASPIR-TRIN 325	10-06-07	DRAFT
NORVASC 5 MC	09-30-07	DRAFT
COLUMADIN 6 M	09-30-07	ACTIVE
BUSPAR 5 MG	10-30-07	ACTIVE
FOSAMAX 70 M	09-29-07	ACTIVE
ZYPREXA ZYDI	09-24-07	D/C
ZYPREXA ZYDI	09-23-07	D/C
ZOFRAN 4 MG	09-16-07	ACTIVE
SINEMET-25	10-09-16-07	ACTIVE
LASIX 20 MG T	09-06-07	ACTIVE
ACETAMINOPHE	08-24-07	ACTIVE
BL ZINC GLUCC	08-24-07	ACTIVE

Procedure	End Date	Status
APPLY OINTMEI	11-10-07	ACTIVE
CHANGE DRESS	11-10-07	D/C
CHANGE DRESS	10-07-07	DRAFT
O2@2LM NC	09-30-07	ACTIVE
APPLY OINTMEI	09-30-07	ACTIVE
CHANGE DRESS	09-30-07	ACTIVE

Diet Type	End Date	Status
REGULAR	11-02-07	ACTIVE
CARB CONTROL	09-30-07	ACTIVE
REGULAR	09-16-07	D/C

Lab Type	End Date	Status
BLOOD	10-07-07	DRAFT
URINE	09-30-07	ACTIVE

Procedure	End Date	Status
ULTRASOUND	11-10-07	ACTIVE
X-RAY	10-04-07	DRAFT

Rehab Type	End Date	Status
PHYSICAL THEF	10-04-07	D/C

Selected	End Date	Status
NO ALCOHOL	09-30-07	ACTIVE

Date	Dx	Description
09-04-2007	332.	PARKINSON'S DISEASE*
09-04-2007	331.0	ALZHEIMER'S DISEASE

Allergies

Precautions

	09-10-07	07-28-07	N/A	N/A	N/A
Temp		99			
Pulse		78			
Resp		14			
SBP / DBP	121 / 76	126 / 82			
Weight		149			

Virtual Body

Care Plan

Progress Notes

ADLs

Visits

Notifications

Summary

# DISCUSSION

- **Need for better Trained & Qualified Pharmacists**

- To perform their role effectively & to gain confidence of the clinicians for their acceptability as a member of the patient care delivery team, the pharmacists have to be better trained than what they are now.
- The PCI,GOI has notified the Pharm.D Regulations which is a 6 year integrated course after class 12<sup>th</sup>, dealing with Clinical Pharmacy & is different from the 4 year B.Pharma course/1 year Diploma in Pharmacy(D.Pharma).

- **Patient Safety/Medication Errors**

- The biggest patient safety concern is that of medication errors that occur at the Prescribing stage.
- The physician is required to remain updated on a large number of medical products which are available in the market today, which is a difficult proposition.



# DISCUSSION

- Pharmaceutical Care : Indian Context

- The PPR, 2015 was enacted by MOHFW/ PCI to train pharmacists to deliver Pharmaceutical care.
- A total of 30 seats for Pharm.D & 10 seats for Pharm.D (Post Baccalaureate) per institution has been sanctioned .
- 222 colleges/institutions spread over 13 states of the country, have been approved by the PCI for running these courses till date.
- Development of training facilities & infrastructure development is still required. In this infrastructure need, I.T will have a major share.

# DISCUSSION

- **Pharmacy Automation**
  - This hospital medical stores lacks Pharmacy automation, which is essential to improve patient safety, eliminates manual intervention which are prone to errors.
- **Automation/Technology Available**
  - ✓ **BCMA**
    - Use of Barcode Medication Administration is the least costly amongst the IT based automation system for medication management.
  - ✓ **RFID**
    - The RFID technology though simple in concept, is costly to implement. It has a great potential in inventory management.

# BCMA & RFID IMAGES



# DISCUSSION

- **UDDS**

- Unit Dose packaging & dispensing is an I.T based on robotics & has great role in reducing medication errors.
- Hospitals like Aster Medcity, Kerala has adopted this automated system of UDDS in India.

- **Pneumatic Tube Transportation System**

- Logistics is another area which can improve efficiency, considerably.
- Many corporate hospitals in India have adopted PTTS. Its operation & control is through use of I.T.

# UDDS/ROBOTIC PHARMACY AT ASTER MEDCITY



# PNEUMATIC TUBE TRANSPORTATION SYSTEM



# DISCUSSION

- E - prescribing can be implemented in hospitals . IMA has advocated for e-prescribing of medicines on voluntary basis.
- Needs some system & cultural change , among Physicians.
- Initially more time will be required, for writing a prescription & transmitting to the pharmacy.
- As the clinicians use it for some time, they will become more conversant in its use.
- In this hospital, however, a policy change will be required from Ward based dispensing to pharmacy based dispensing of drugs.



# E- PRESCRIPTION

IMS (FOR, Cardiology) (Patient: AARON, JOHN W)

Action View Setup Activities Billing Reports Utilities Windows Help

### Add Prescription

Select Template & Drug:

Pharmacy: CVS CAREMARK

Drug	Strength	SIG (?)	Days	Qty.	Refill
<input type="checkbox"/> Aggrenox	200-25 mg CAP MPF	1 every morning, 1 every evening	90	180.00	
<input type="checkbox"/> Aldactone	25 mg TABLET	1 every morning, 1 every evening	90	180.00	
<input type="checkbox"/> Altace	5 mg CAPSULE	1 every morning	90	90.00	
<input type="checkbox"/> Amiodrone HCl	200 mg TABLET	1 every morning, 1 every evening	90	180.00	
<input type="checkbox"/> Aspi-81	81 mg TABLET DR	1 every morning	100	100.00	
<input type="checkbox"/> Aspirin	325 mg TABLET	1 every morning	100	100.00	
<input type="checkbox"/> Atacand	16 mg TABLET	1 every morning	90	90.00	
<input type="checkbox"/> Atacand HCT	16-12.5 mg TABLET	1 every morning	90	90.00	
<input type="checkbox"/> Atenolol	50 mg TABLET	1 at night	90	90.00	
<input type="checkbox"/> Avalide	150-12.5 mg TABLET	1 every morning	90	90.00	
<input type="checkbox"/> Avapro	150 mg TABLET	1 every morning	90	90.00	
<input type="checkbox"/> Benicar	20 mg TABLET	1 every morning	90	90.00	
<input type="checkbox"/> BENICAR HCT	20-12.5 mg TABLET	1 every morning	90	90.00	
<input type="checkbox"/> Betapace	120 mg TABLET	1 every morning, 1 every evening	90	180.00	

PRN Add PRN NTE Add NTE \_/Days DAW Add DAW

Allergy: No Known Allergies

### Add Drug

Drug* (?)	SIG (?)	Days	Qty: (?)	Unit	Refills	Type	Start Date
1. [ ]	[ ]	30	.00	[ ]	[ ]	Chronic	04/23/11

Category: [ ] Pharmacy: CVS CAREMARK Rx By: Self Rx No. [ ] Note: [ ]

No. of Row(s): 1 Drug Education Drag drug and drop in template Dosage Calculator Cannot sync. on ePresc. Additional Rx Detail

Ready system Ver: 12.0.5.0331 hp - 0030022 4-23-11 12:44:45

Start IMS (FOR, Cardiology)... Desktop 12:44 PM



# DISCUSSION

- **Pharmacy Management System**

- Medical stores is one of the most important support deptt for efficient delivery of patient care.
- Most Corporate Hospitals in India have introduced PMS and this is integrated with their HMIS.
- This level of automation improves the efficiency of operation.

- **EHR Standards,2016**

- EHR Stds, 2016 have been published by MOHFW, GOI.
- It will take time to be fully implemented & become operational in all hospitals of the country.
- A research paper on “Roadmap for implementation of EHR Standards, 2016 in India”, has been published by Sunil Kumar Srivastava , Ph.D , on 31 Oct 2016 , gives a holistic approach.

[QST Portal](#)
[SBI Artery](#)
[SBI FTP](#)
[SBI Blogs](#)
[SBI Newsletter](#)
[SBI Digital](#)
[SBI WebEx](#)
[Media SPECS](#)
[DxMA](#)
[Rx Awards](#)
[BA](#)
[Wikipedia](#)
[Google Maps](#)
[News \(14\)](#)
[Popular](#)

[Quest Diagnostics Inc. WebEx Ent...](#)
[Patient](#)

**Care360**
[David Smith](#)
[Physician Demo Org](#)
[Admin](#)
[Preferences](#)
[Support](#)
[What's New?](#)
[Help](#)
[Logout](#)

[Message Center](#)
[Patient](#)
[Lab Orders](#)
[Reports](#)

[Summary](#)
[Document Visit](#)
[Prescriptions](#)
[Lab Tests](#)
[Flowsheets/Graphs](#)
[Radiology](#)
[Diagnostics](#)
[Documents](#)

[Quick View](#) > [Find a Patient](#) > **Patient**

**Smith, Thomas** 04/05/1956 (54y) Male

H 513-555-1212 9837 Maple Ave, Cincinnati, OH 45242 #9876541 [Edit/View Details](#)

No Pending Renewals

Allergies/Adverse Reactions: codeine, penicillins

[Recent Requisitions](#)
[Write a Lab Order](#)
[View All](#)

Requisition Number	Date	Status	Final	Check	Print
4000860	06/14/2006	Final	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4000861	01/22/2006	Final	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4000862	05/19/2005	Final	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4000863	06/02/2004	Final	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4000864	06/05/2003	Final	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Patient Problems](#)
[Add](#)
[View All](#)

Problem	Smith, David
<input checked="" type="checkbox"/> Esophageal reflux	Smith, David
<input checked="" type="checkbox"/> Hyperlipidemia	Smith, David
<input checked="" type="checkbox"/> Mixed hyperlipidemia	Smith, David
<input checked="" type="checkbox"/> Persistent Toenail Infection	Smith, David

[Active Medications](#)
[Write a Prescription](#)
[Reconcile](#)
[View All](#)

Medication	Dosage	Quantity
<input checked="" type="checkbox"/> Lipitor	20 mg	948

[Vaccinations](#)
[Administer Medication](#)
[View All](#)

No vaccinations present

[Past Medical History](#)
[Add](#)
[View All](#)

No past medical history present

[Surgical History](#)
[Add](#)
[View All](#)

[Notes in Progress](#)
[Start a SOAP Note](#)
[View All](#)

11/15/2010 - [Diagnosis: Mixed hyperlipidemia, Esophageal reflux](#)

[Recent Vitals](#)
[Growth Chart](#)
[View All](#)

11/15/2010 - L/H: 68.0in; W: 186.0lb; BMI: 28.3; T: 98.2°F; B/P: 210/80 Sitting; P: 75BPM; R: 20BPM; O<sub>2</sub>Sat:

[Other Documents](#)
[View All](#)

Filename	Transfer Summary	Date
Filename: sinus3.txt		11/15/2010
Filename: sinus4.txt		11/15/2010

[Clinical Notes](#)
[View All](#)

Filename	Date
Filename: soap_note.pdf	11/15/2010
Diagnosis: Mixed hyperlipidemia, Esophageal reflux	11/15/2010

[Allergies/Adverse Reactions](#)
[Add](#)
[View All](#)

codeine  
penicillins

[Recent Radiology Results](#)
[Write a Radiology Order](#)
[View All](#)

No radiology results present

[Diagnostics](#)
[View All](#)

# DISCUSSION

- **Adv of automation**

- All functions of IM can be automated.
- improve efficiency
- reduce wastage
- lower inventory carrying cost
- improve consumer satisfaction
- lead to better patient care

- **Feasibility of Implementation of I.T**

- Review is required to examine the feasibility of implementation of I.T in this hospital, to bridge the gap between what presently exists & what should be.
- Both internal & external environment have their influence on the feasibility of implementation of I.T in the Medical stores .

# DISCUSSION

- **External Environment**

- Influencing the feasibility :

- ✓ Technology

- ✓ Socio- economic system

- ✓ Education level

- **Internal Environment**

- Acceptance of need

- Priority in patient safety

- Availability of funds

- Need for change in Organisational culture

- Availability of Support services external to this organisation.

# DISCUSSION

- Acceptance of Need at Decision Making Level
  - Bigger & radical measures for implementation will need support at a higher level.
  - The less costly implementation needing less education & training & shorter time lines can be implemented at the hospital level itself.
  - Provided the need is accepted at the decision making level.

# RECOMMENDATIONS

## SHORT TERM & LONG TERM STRATEGIC DECISIONS

### NEED TO BE TAKEN

- SHORT TERM

- Inventory Management:

- ✓ Can be implemented w/o any major cost effect.
- ✓ Training required for use of software is small.
- ✓ First the Idea , the Implications & its Benefits need to be sold to the Stakeholders of the proposed system.

- BCMA :

- ✓ Barcode Medication Management System can be implemented w/o much of cost effect.
- ✓ Training need is also very small.

# RECOMMENDATIONS

- **E-Prescribing**

- E- prescribing can be implemented at the basic level.

- **Policy Change**

- All aspects can be gradually introduced as the system matures & the users gain confidence in the system.
- Change in Policy decision, to dispense medication from the Pharmacy instead of the Ward Store.

# RECOMMENDATIONS

- **LONG TERM**

- Assessment to be made about :
  - ✓ the availability of the technology in the Indian market
  - ✓ Its Support Facilities
  - ✓ Cost Implications
  - ✓ Training Needs.

- **ADOPTION OF PHARMACEUTICAL CARE**

- ✓ Major initiative taken by the GOI by introduction of Pharm.D courses since 2008 .
- ✓ Inclusion of “Pharmaceutical care aspect” .
- ✓ Pharmacists trained in Pharm.D/ Pharm.D(Post Baccalaureate) courses vide PPR,2015.



# RECOMMENDATIONS

- ✓ Major change effort needed at the implementation level.
- ❖ Recruiting these Doctors of Pharmacy trained in Clinical Pharmacy aspects
- ❖ Availability of EHR, CDSS & CPOE .

## ➤ ACCEPTANCE BY PHYSICIAN

- ✓ The greatest barrier - acceptance by the Physician who is the leader of the patient care team.
- ✓ Of the new role of the Pharmacists/Doctors of Pharmacy & their being a member of the Care Delivery Team.

THANK YOU  
FOR YOUR PATIENCE !!!!

FINALLY IT'S OVER,  
YOU MAY PROCEED NOW



CONVOCATION  
02 JUNE 2017