BEST PRACTICES IN MEDICATION SAFETY

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CAHO
Committed to Safer Healthcare

World Patient Safety Day 17 September

INTRODUCTION

- Unsafe medication practices and medication errors are a leading cause of avoidable harm & injury in health care across the world.
- Error could occur at any phase of the medication process and lead to adverse patient outcomes including prolonged hospital stay, high costs of expenditure, risk of morbidity and mortality.
- Approximately 250,000 patient deaths happen every year due to medication error.
- Such errors occur due to weak medication systems, undeveloped/underdeveloped processes & policies, human factors such as fatigue, poor environmental conditions or staff shortages etc.

CONCEPT NOTE

- Some of the preventable harm resulting from unsafe medication practices are Medication errors and adverse drug events. ME & ADR are highly ubiquitous & worldwide reasons for high pervasiveness can be drug - food interactions, poly-pharmacy, inadequate staff knowledge, irrational & incorrect prescriptions, high alert medications, lack of manpower, human error etc.

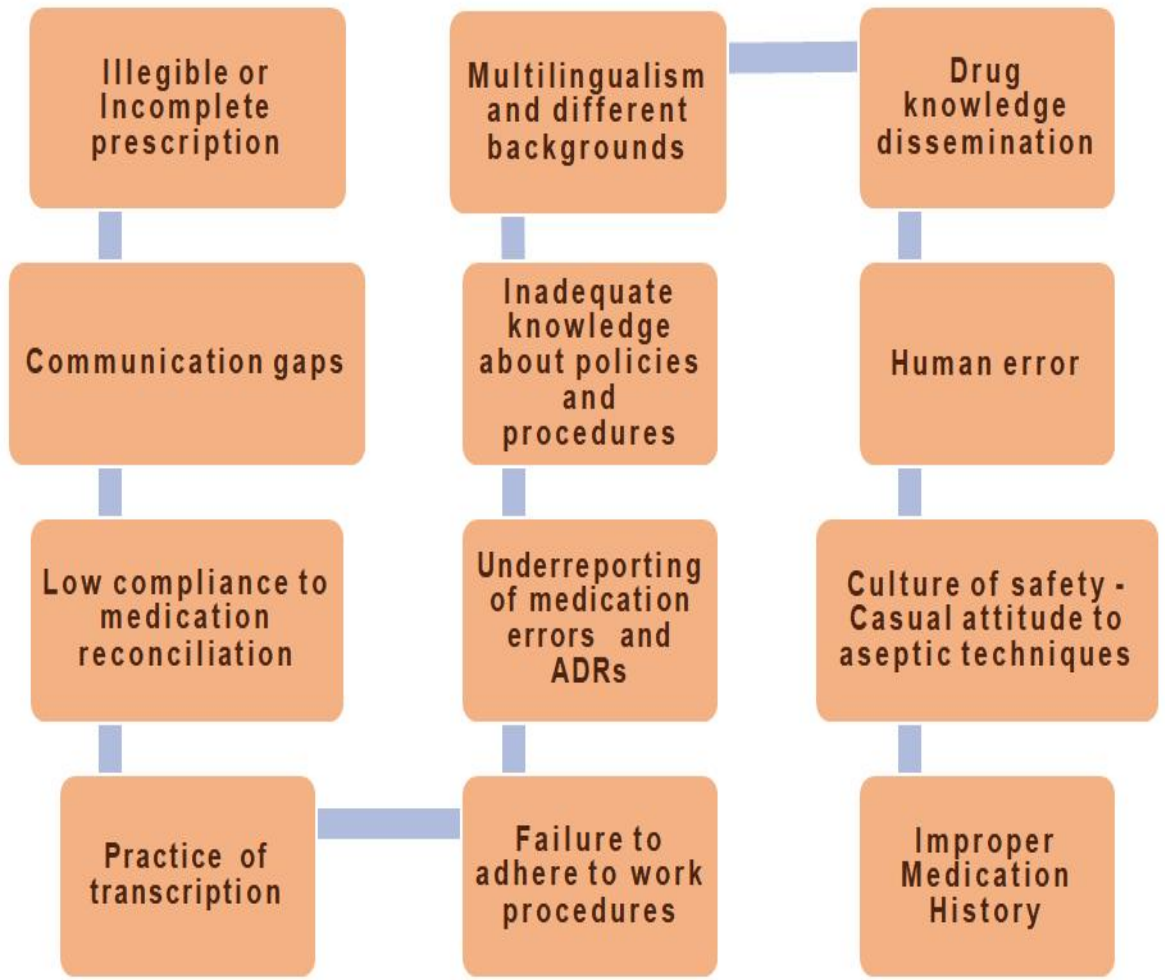
- Medication safety in poly-pharmacy and medication reconciliation is one of the major challenge faced today that may affect the patient's health.

- In the NABH 5th edition introduced in April 2020 more focus was given on Medication Management with entire change in methodology of capturing Medication Errors through process audits.

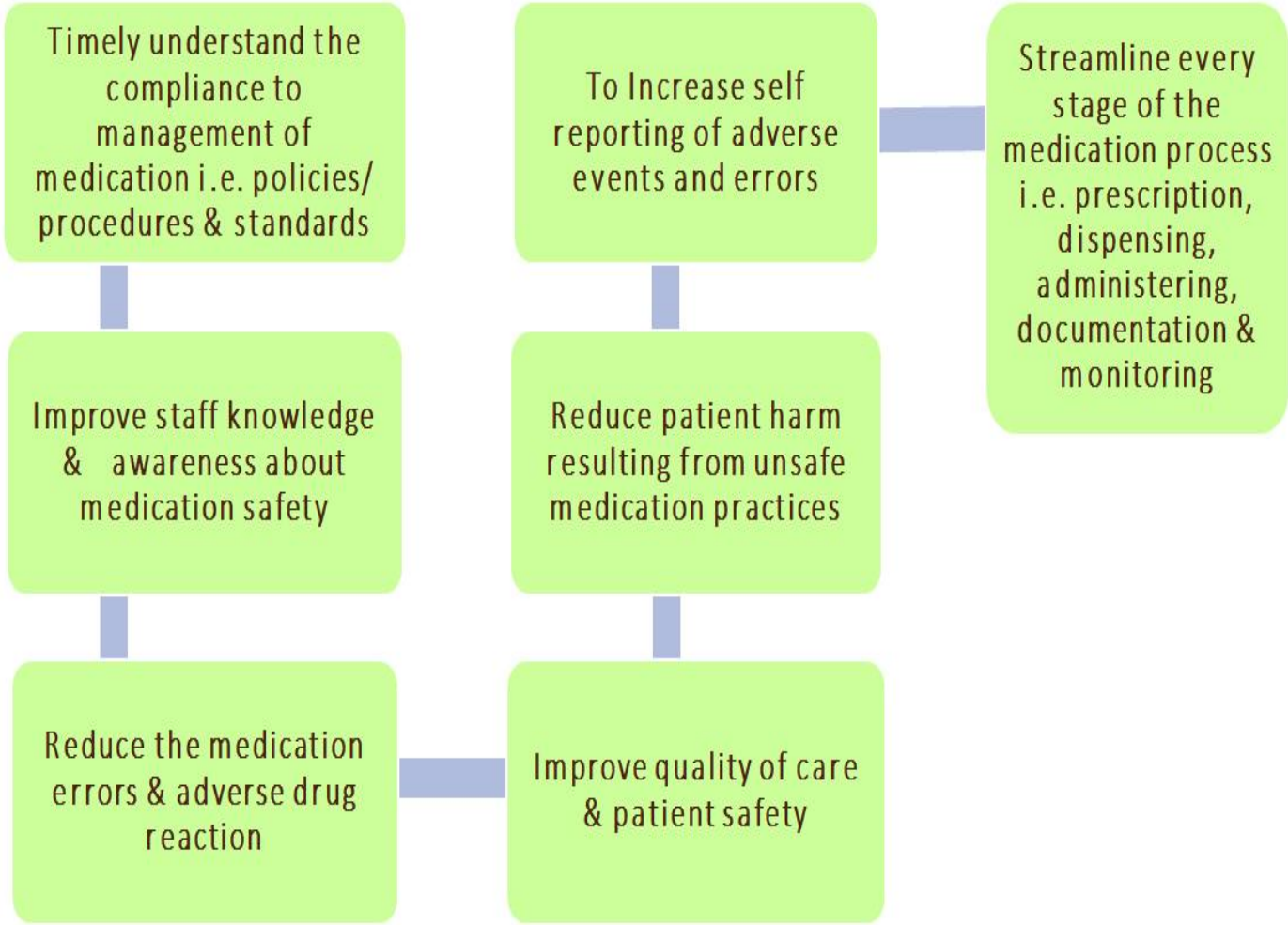
- COVID pandemic also to a certain extent compromised the compliance in safe medication management & thus led our attention to work more towards medication safety.

- Our aim is to serve the community with zero medication error thus ensuring 100% patient safety which is why this extensive project was taken up at Ruby Hall Clinic Hospitals.

PROBLEM IDENTIFIED



OBJECTIVES



METHODOLOGY

Study design:- Prospective observational study

Study Area:

- 600 bedded tertiary care multispecialty hospital with around 2500 admission per month

Study Population:- Inclusion Criteria:- Admitted patients (including day care) irrespective of age, sex and diagnosis.

-Exclusion criteria :- None

Study Duration:- 18 month (4995 patient case records)

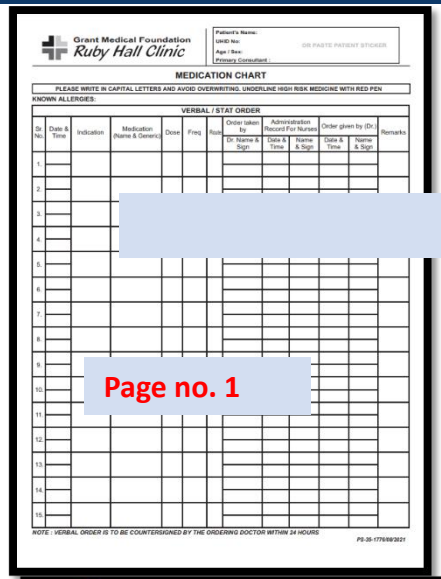
-Sample size was calculated using margin of error 5%, Confidence interval of 95 %

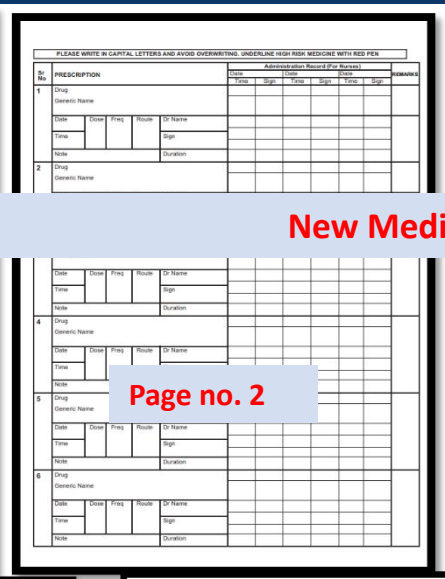
and 50% population proportion in 2500 population per month

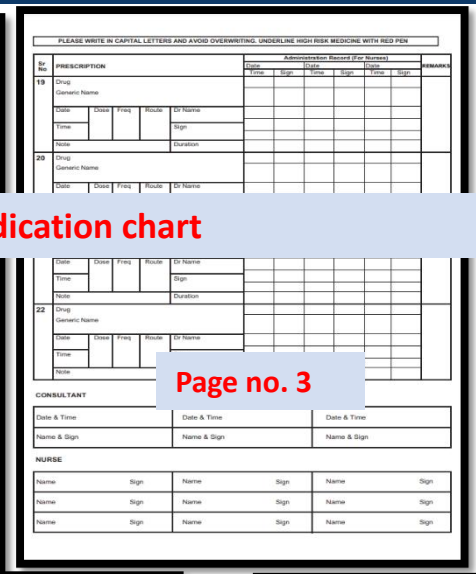
METHODOLOGY (....CONTINUED)

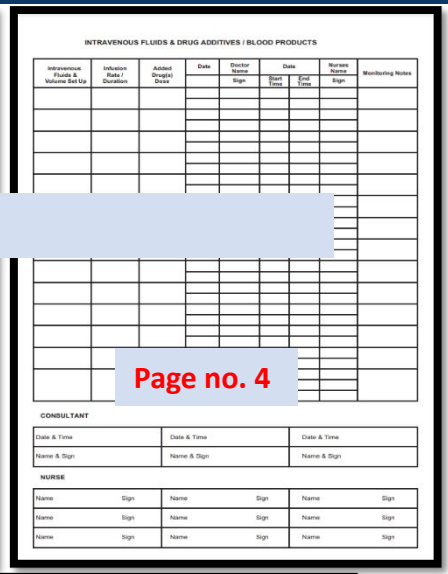
PHASES	PHASE I	PHASE II	PHASE III
Timeline	**January to June 2021**	**July to December 2021**	**January to June 2022**
Activities undertaken	-Conducted Gap analysis to understand the compliance level -6 months medication errors review to understand the trend & RCA -Revisiting policies on Medication Management -Revision & implementation of new Medication chart -Training and education sessions for all healthcare workers -Initiation of project **PRIME** (Preventing risk of infection & Medication errors in IV therapy)	-Audit to check the compliance after interventions taken in phase I -Medication Safety campaign -Formulation of Medication Safety Goals -Implementation of revised ADR (as per PVPI) & Medication error reporting forms -Implementation of EMR at OPD & ER - Continuation of PRIME project ...	-Audit to check improvement in compliance rate -Training and education sessions for healthcare workers (Doctors/ Nurses/ Pharmacists) -Monthly consultant meet & Sunday CMEs for doctors -FMEA for Medication error & ADR - Culmination of PRIME project

AMENDMENT OF NEW MEDICATION CHART









New Medication chart

Page no. 1

Page no. 2

Page no. 3

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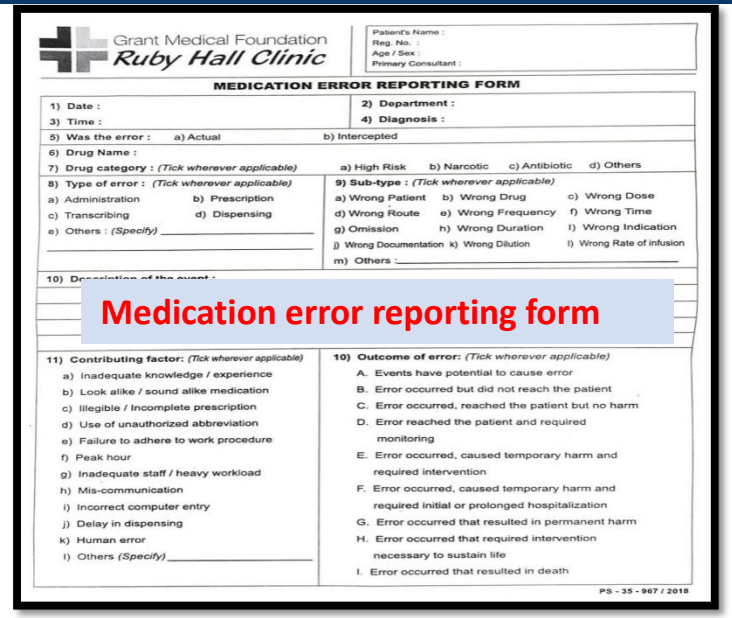
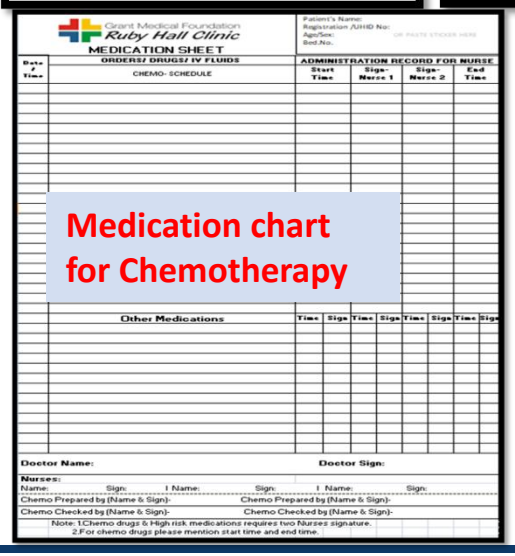
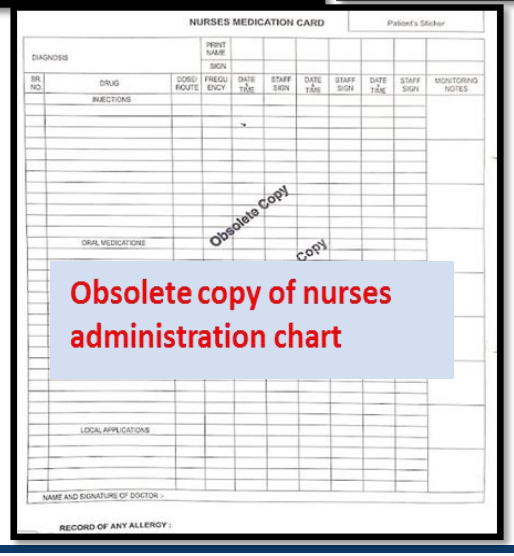


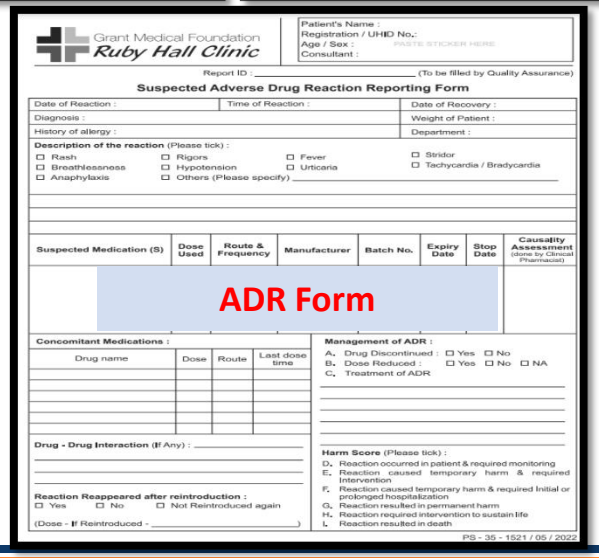
Medication error reporting form



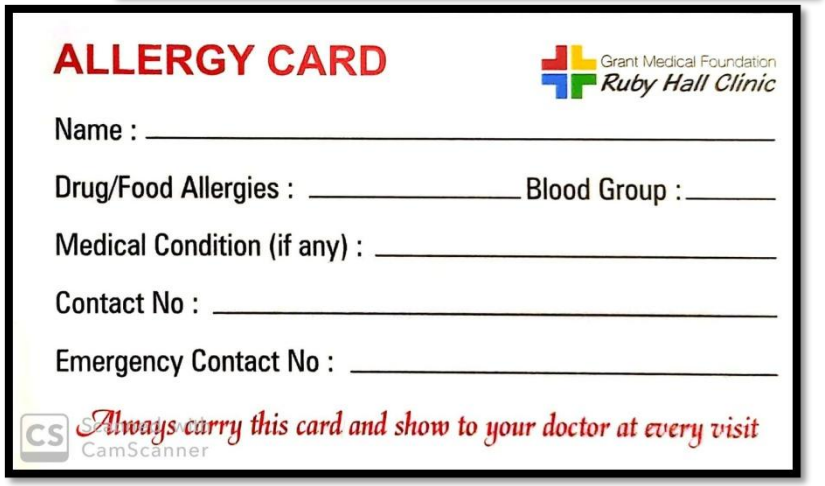
Medication chart for Chemotherapy



Obsolete copy of nurses administration chart

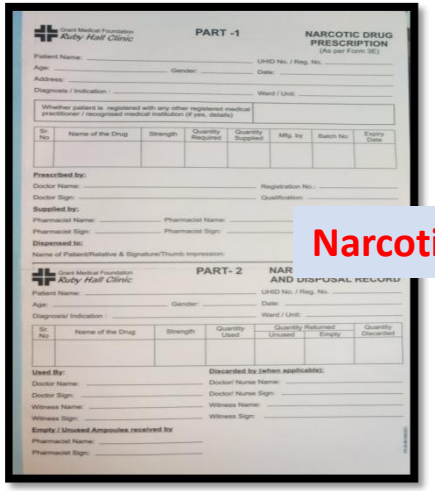


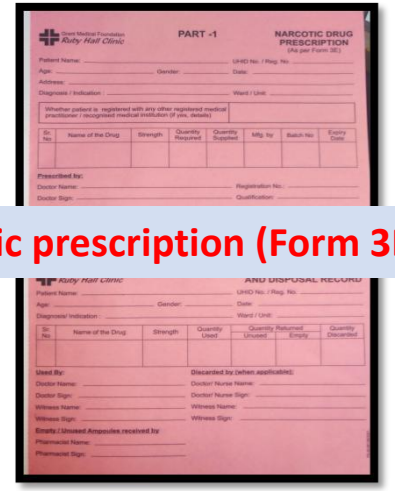
ADR Form

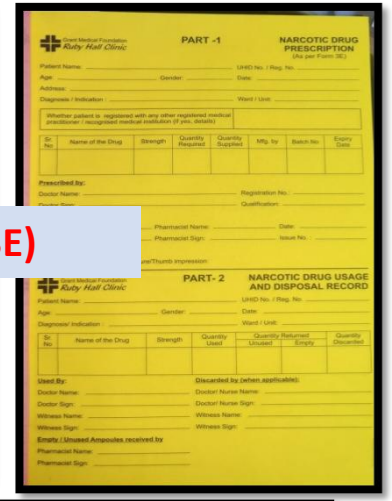


IMPLEMENTATION & REVISION OF FEW FORMS & POLICIES

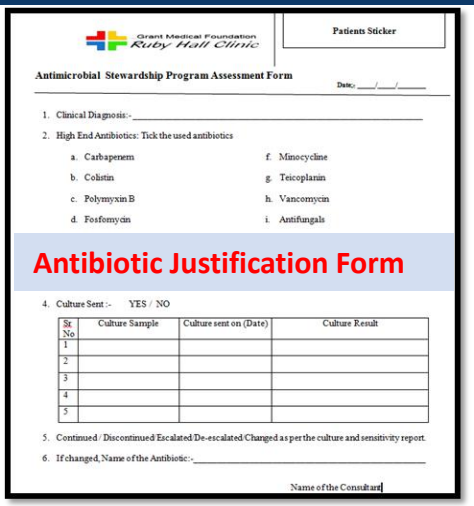
- Different protocol for administration of KCl in wards & ICUs
- Policy for Medication errors & Adverse drug events
- Policy for administration of Test dose
- Policy for administration of Oxytocin in Labor delivery room
- Policy for safe use of high risk medications & LASA medications
- Cut Strip Policy
- Policy for Timely administration of scheduled medications
- Updation of Antimicrobial policy
- Insulin Policy





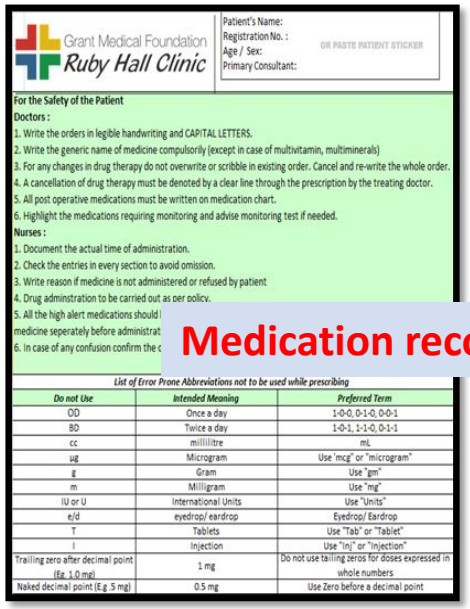


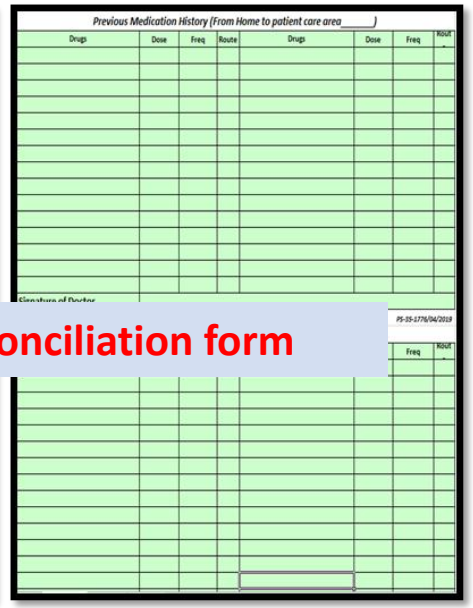
Narcotic prescription (Form 3E)



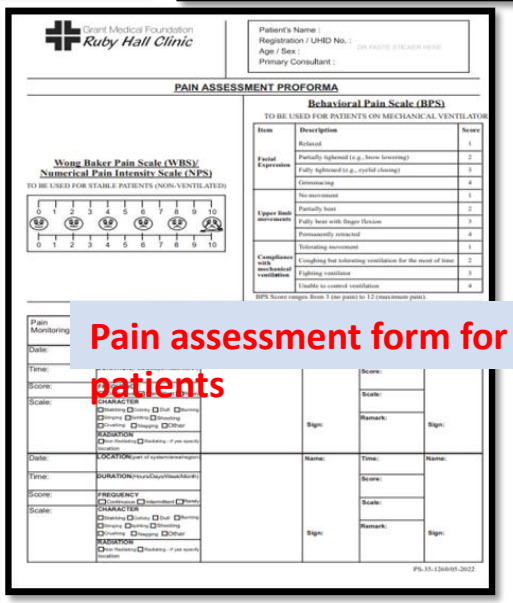
Antibiotic Justification Form

Form for medication bought from outside

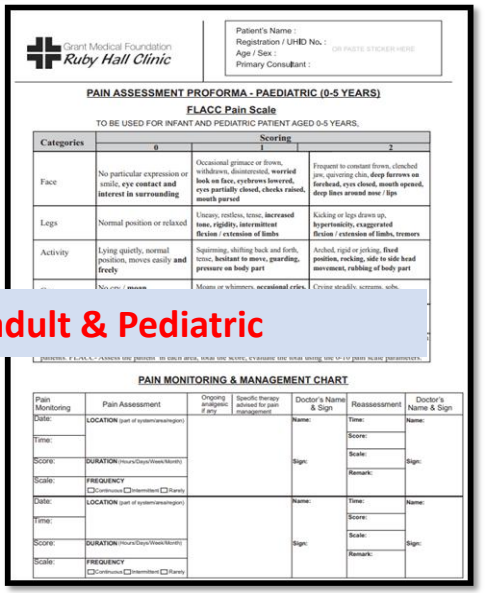




Medication reconciliation form



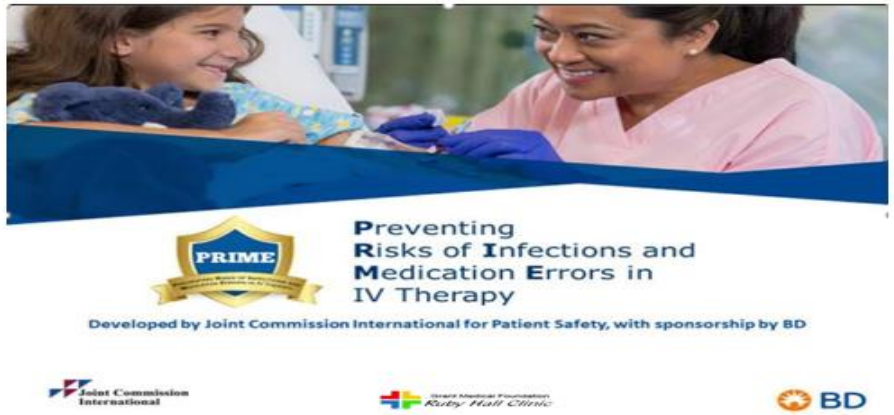
Pain assessment form for adult & Pediatric patients



PROCESS CHANGE

INITIATED PRIME PROJECT

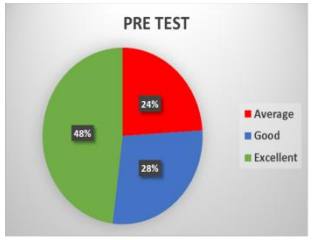
- **PRIME, initiative was taken by Ruby Hall Clinic in partnership with JCI, Which focused on preventing risks of infection and medication errors in IV therapy program, leading to improvement of vascular access & medication safety at the bedside.**
- **First audit of PRIME was conducted in February 2021**

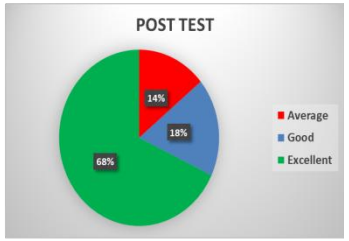


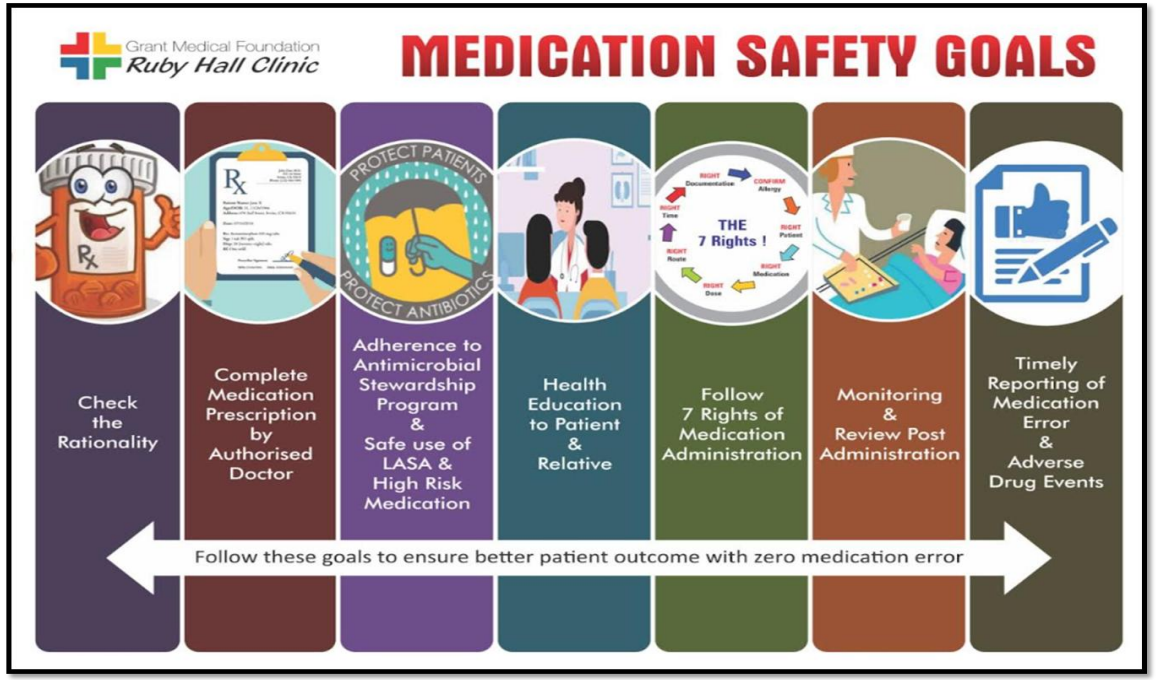
PRIME LAUNCH 2020

PRIME AUDITORS selection & training

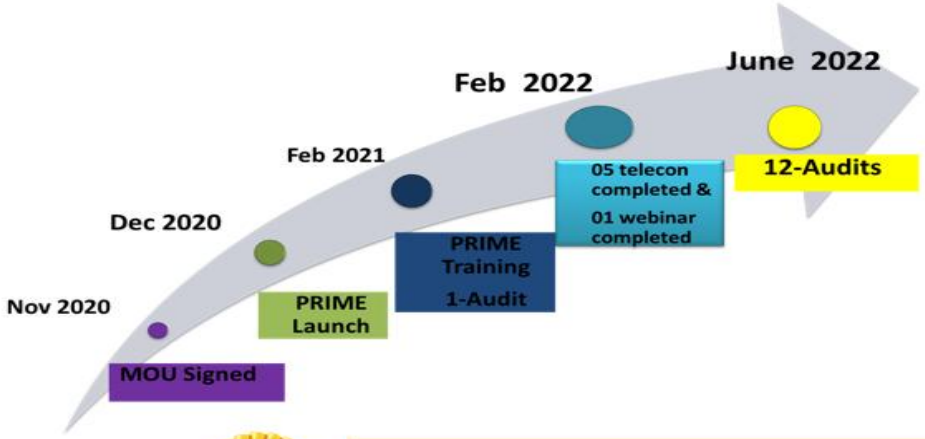
MEDICATION SAFETY DRIVE: "Know Safety, No Pain"





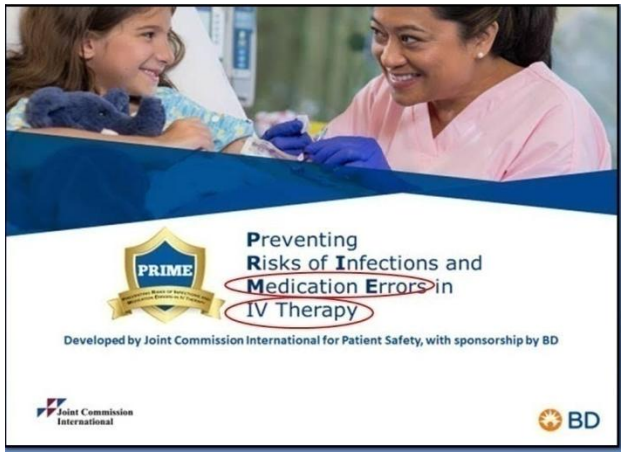


CONTINUATION OF PRIME PROJECT



Ruby Hall Clinic is the 1st hospital in Pune to get PRIME certification.

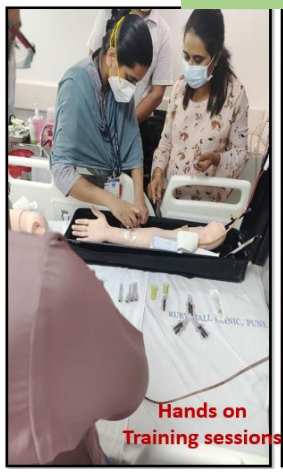
IV DRIVE

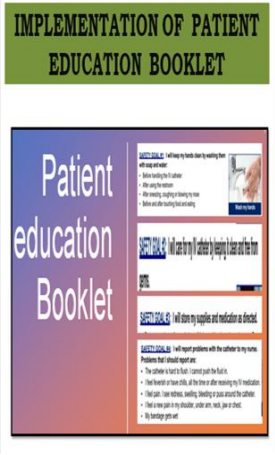


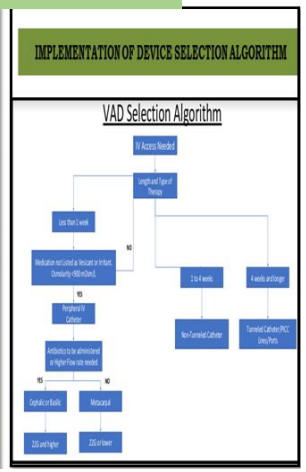
CONTINUOUS QUALITY IMPROVEMENT ACTIVITIES

IV DRIVE
AWARENESS, COMPLIANCE, EXCELLENCE
AUG - 2021

MEDICATION SAFETY DRIVE
KNOW SAFETY NO PAIN
SEP - 2021







DRUG STORAGE STANDARDIZATION ACROSS THE HOSPITAL

High risk cupboard in Pharmacy

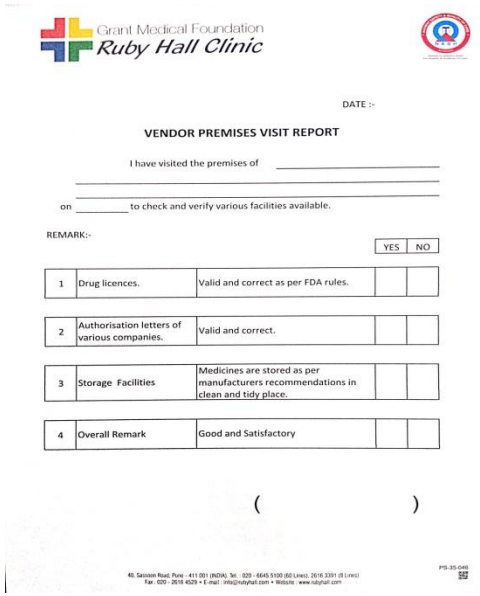
Crash cart trolley for emergency medications

Pneumatic chute for fast delivery of medications

Cold storage for vaccines

Practice of red dot stickers on High risk drugs

High risk cupboard with 2 locks (in wards & ICU areas)



Grant Medical Foundation
Ruby Hall Clinic

DATE :-

VENDOR PREMISES VISIT REPORT

I have visited the premises of _____

on _____ to check and verify various facilities available.

REMARK:-

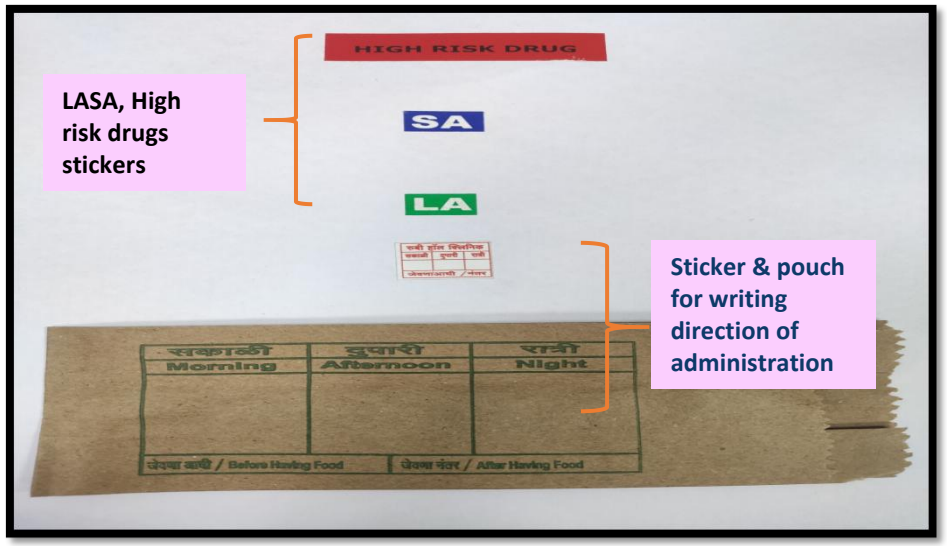
			YES	NO
1	Drug licences.	Valid and correct as per FDA rules.		
2	Authorisation letters of various companies.	Valid and correct.		
3	Storage Facilities	Medicines are stored as per manufacturers recommendations in clean and tidy place.		
4	Overall Remark	Good and Satisfactory		

( )

Vendor Site visit & evaluation

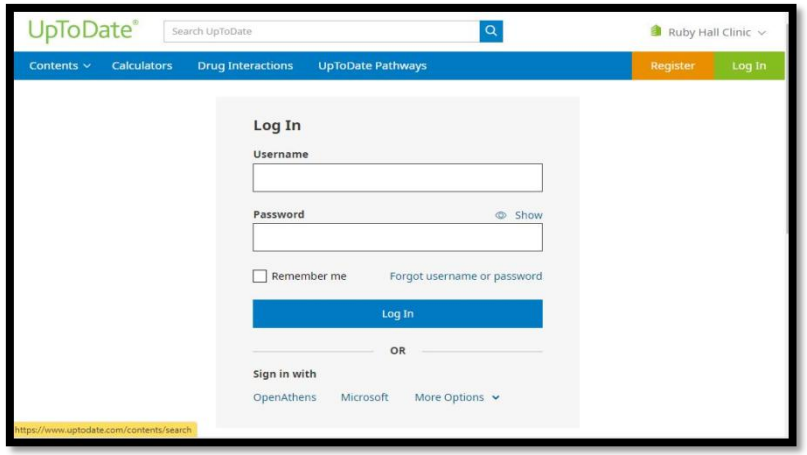
IMPLEMENTATION OF VARIOUS STICKERS FOR MEDICATION SAFETY

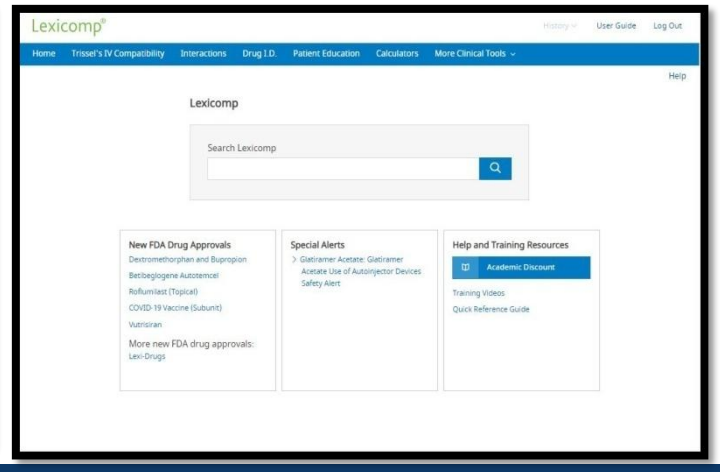
IV infusion stickers

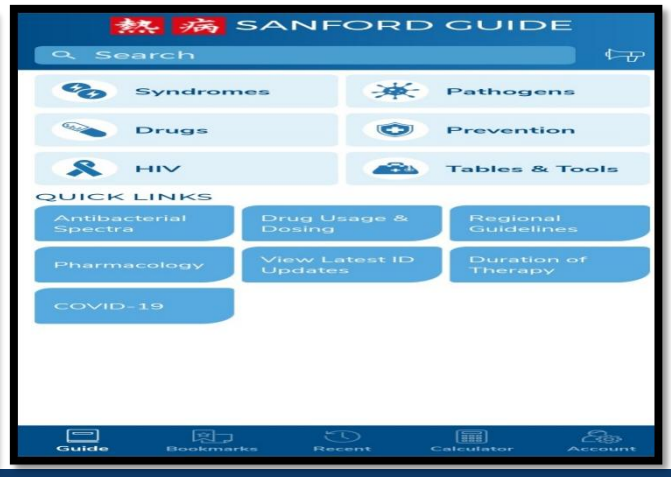


Stickers for storage & Direction of administration

BMW sticker fro disposal for chemotherapy drugs

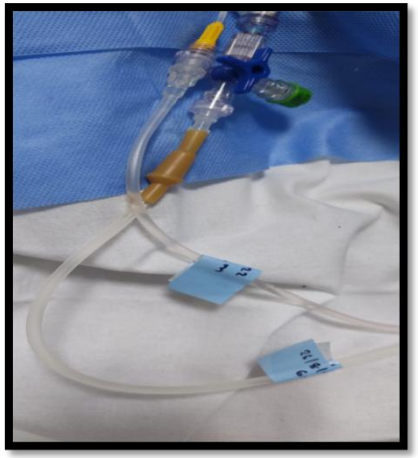






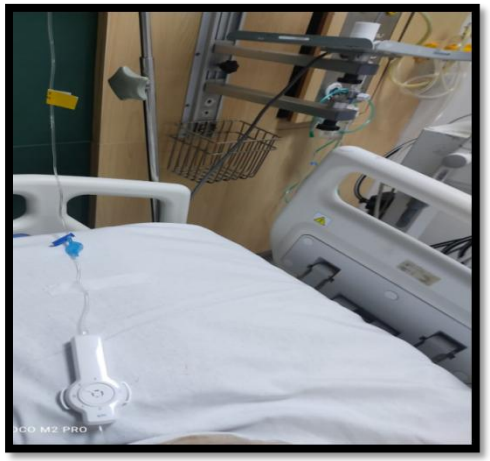
Digital drug reference for healthcare workers

Misconnection policy



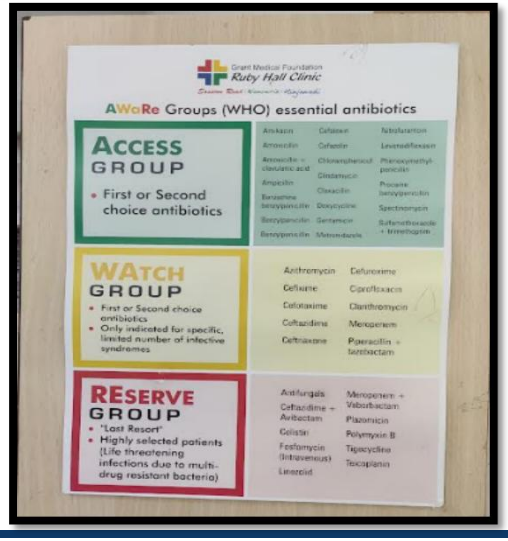
Venous Line

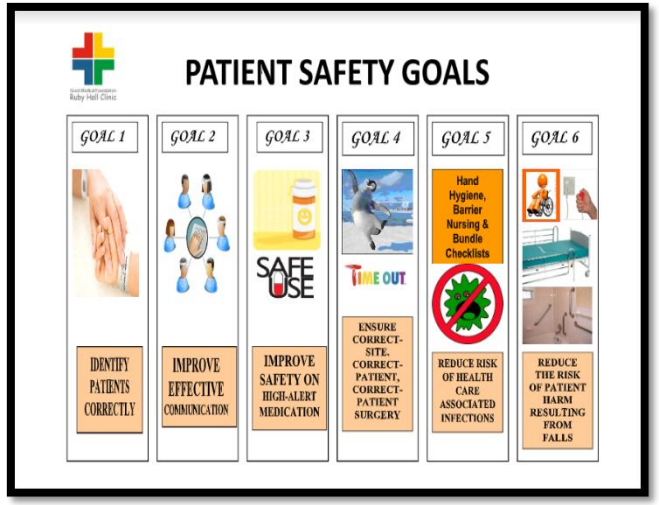
Arterial line



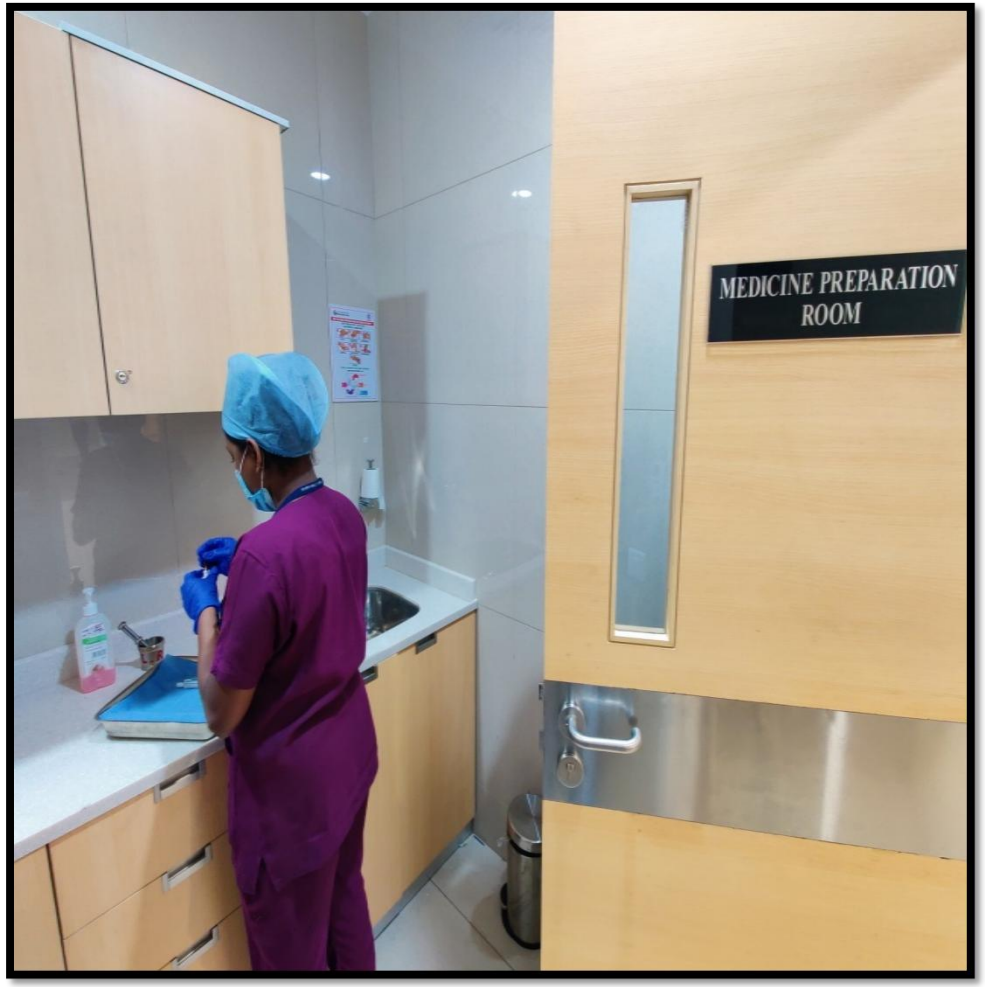
Epidural line

Designed & Displayed signages for medication safety

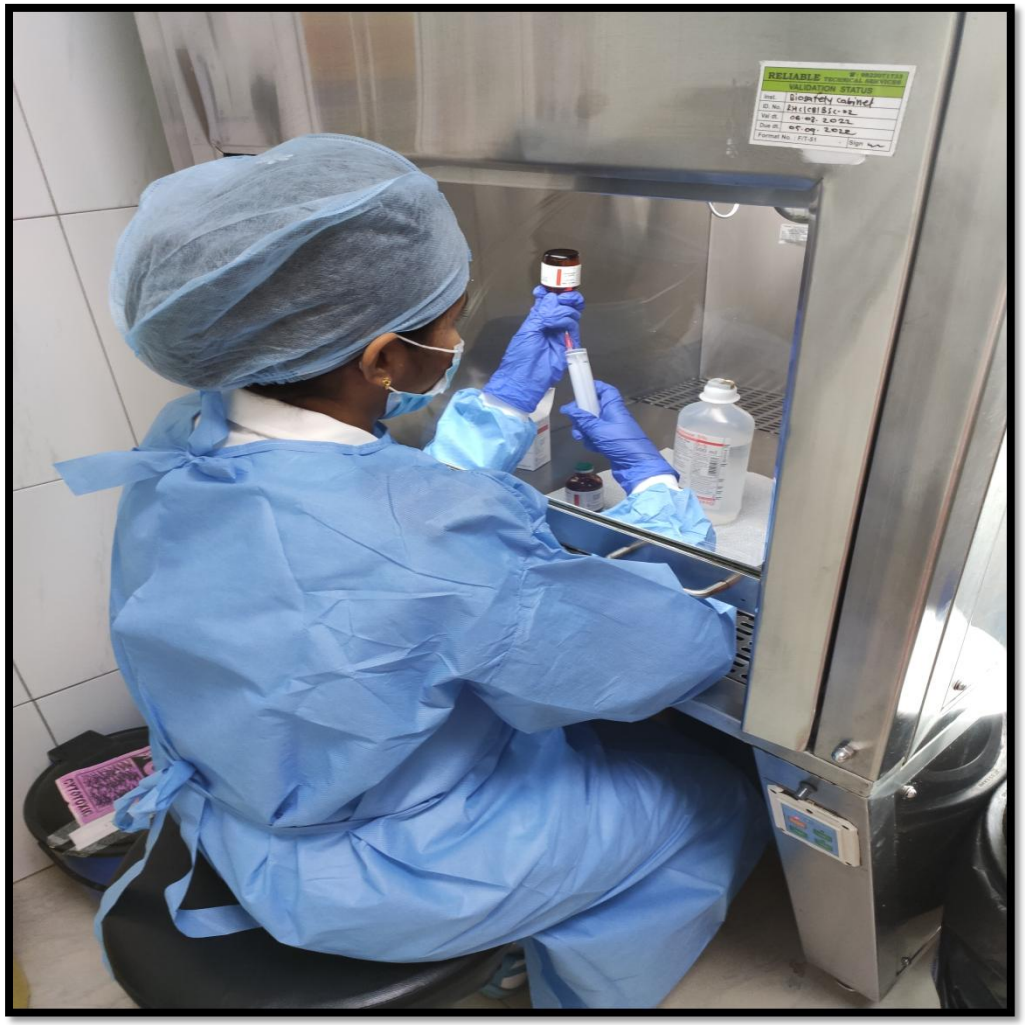




DEDICATED MEDICATION PREPARATION AREA



Medication preparation area



Bio-safety cabinet for preparation of hazardous drugs

SAFETY ENGINEERED DEVICES FOR MEDICATION ADMINISTRATION

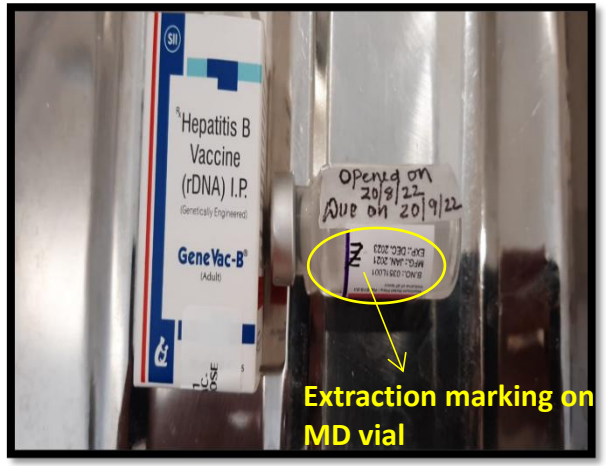
Blunt needle

Pre-filled syringe

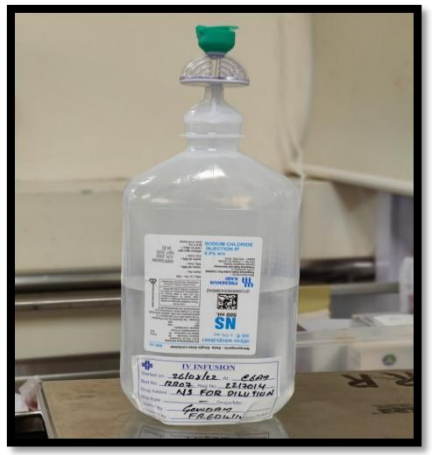
Safety intracath

Sterile Nitrile gloves

Implementation of Multi dose vial policy



Air vent IV set



Needleless adaptor

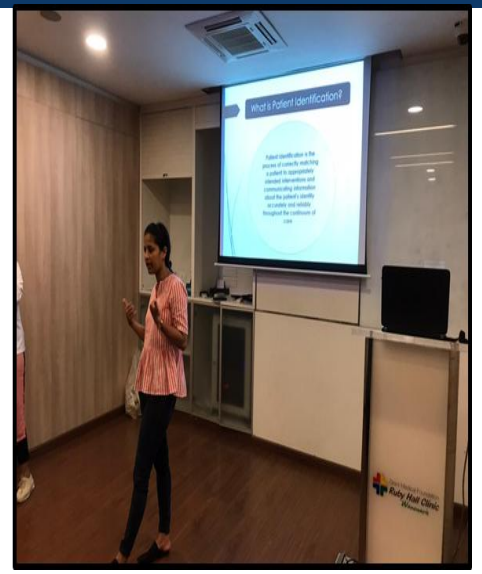
Implementation on single use Insulin policy

Cut strip policy

TRAINING & EDUCATION SESSIONS FOR ALL HEALTHCARE WORKERS

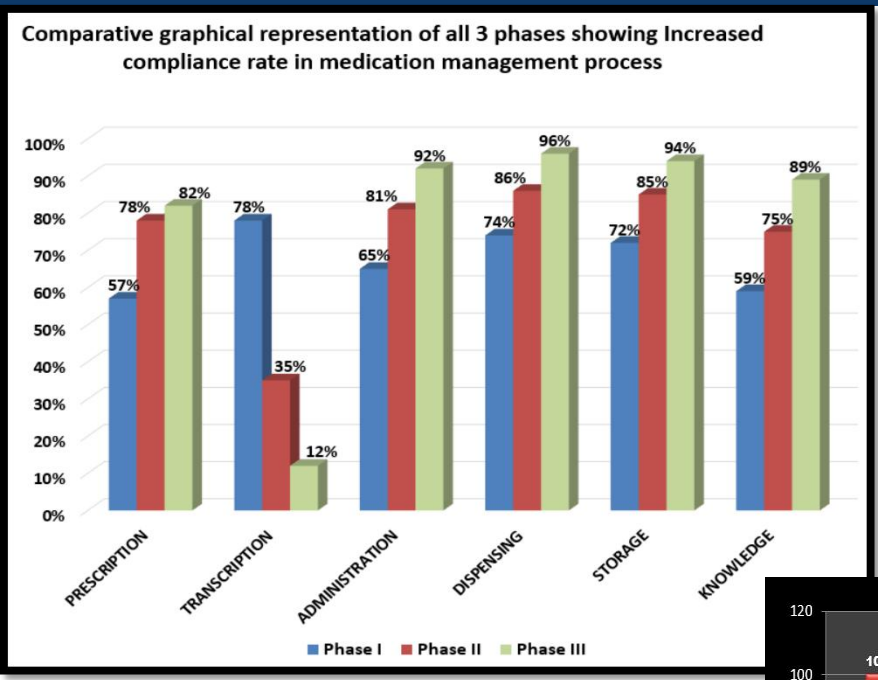






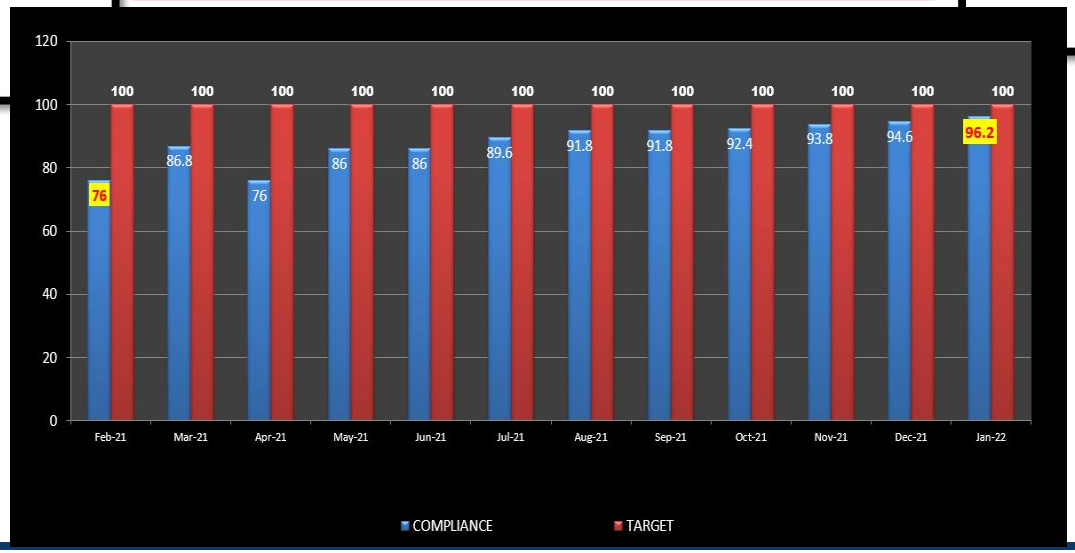

Monthly consultant meet & Sunday CMEs for doctors

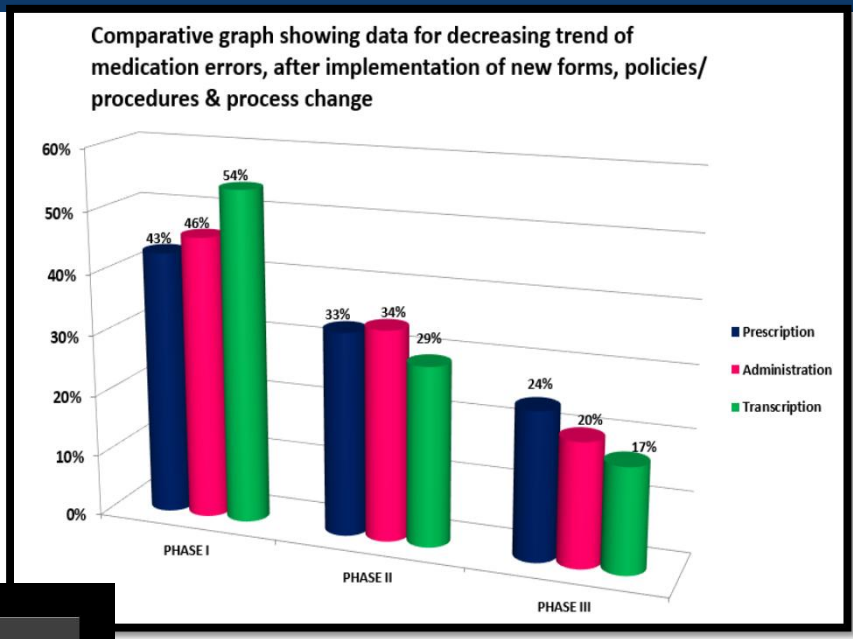

GRAPHICAL REPRESENTATION OF PROCESS AUDIT & MEDICATION ERROR IN ALL 3 PHASES



Graph:01 Process

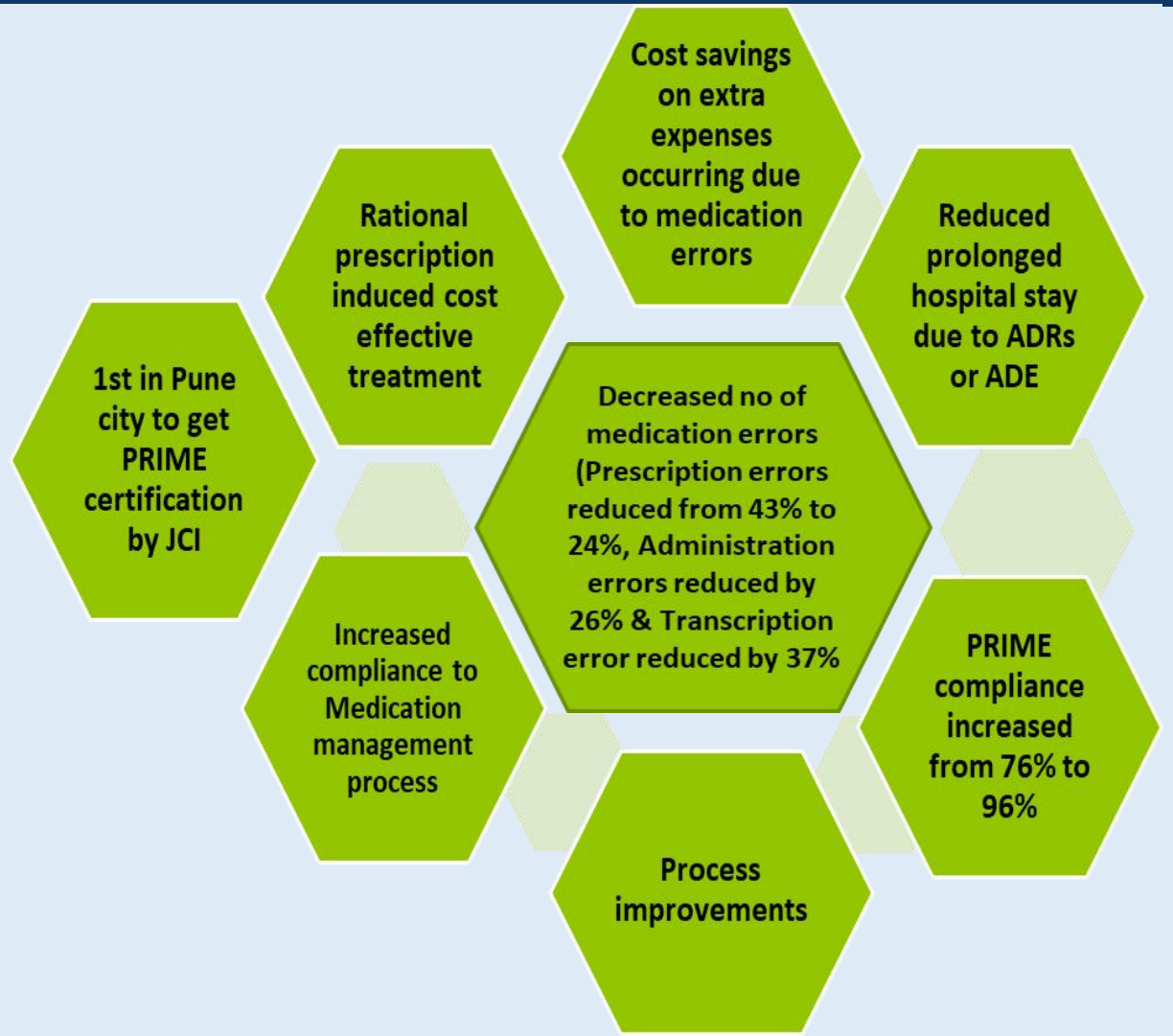
Graph:03 PRIME Journey from 76% to 96%





Graph:02 Medication error data

TANGIBLE RESULTS



INTANGIBLE RESULTS

CONCLUSION

- Safety is priority and it starts with medication safety.
- Medication Safety programs have shown great improvement in prescription, administration and dispensing process, continuing medication safety training programs are very helpful in overall error reduction. However, continuous medication audit by clinical pharmacists could help to prevent harmful error before reaching the patient.
- Quality improvements are required in most of the stages of the medication process. Transcription error was improved with implementation of the new medication chart and medical reconciliation form.
- Several of the identified errors and error types could be avoided by automated solutions like computerized order entry, electronic medical record and barcode medication administration.

ACKNOWLEDGEMENT

Gratitude to our Hospital..
Management & Staff who is working for the betterment & quality care.
Whole hearted thanks to Patients & their Families for constantly recognizing us as a leader in healthcare.
Special thanks to CAHO for giving us this golden opportunity.