BEST PRACTICES IN MEDICATION SAFETY

Authors: DR. SONIYA BHAGAT DR. RADHIKA ZARE DR. POONAM GADE



Sassoon Road Wanowrie Hinjawadi





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.



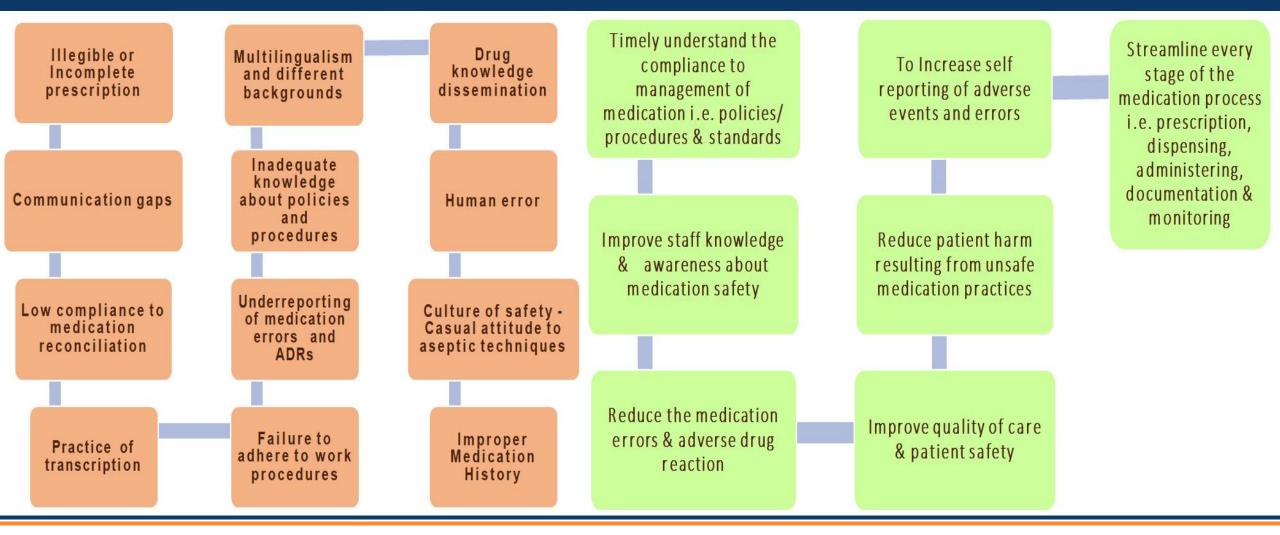
CONCEPT NOTE

- 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





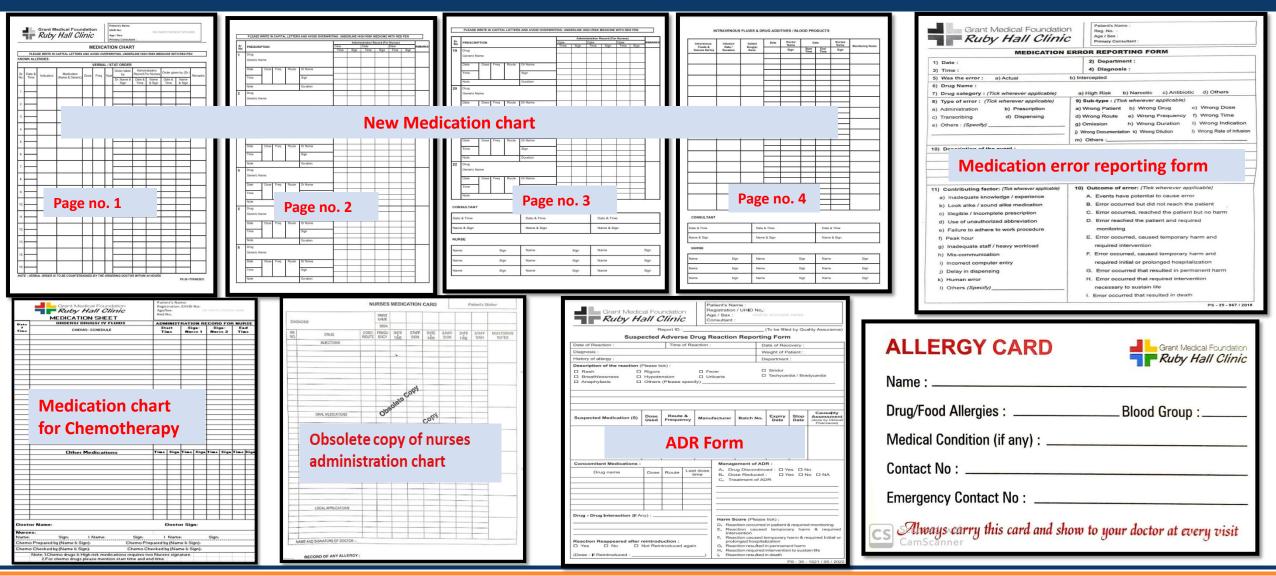
METHODOLOGY (....CONTINUED)

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





AMENDMENT OF NEW MEDICATION CHART





7



IMPLEMENTATION & REVISION OF FEW FORMS & POLICIES

Different protocol for administration of KCI in wards & ICUs Policy for administration	Policy for Medication errors & Adverse drug events Policy for safe use of high risk	Policy for administration of Test dose			PART-1		Patients Sticker Antimicrobial Stewardship Program Assessment Form Antimicrobial Stewardship Program Assessment Form Chincal Diagnosis- Chincal Diagnosis- Lingh End Ambiotics: Cabrino f Minocycline Colstin g Teicoplanin Colstin g Teicoplanin Polymyxin B h. Vancemycin Crofomycin i Amitimgala
of Oxytocin in Labor delivery room	medications & LASA medications	Cut Strip Policy	Name Parameter State Research State 5 StateAustractFounds topynetics Marce of Parameter StateAustractFounds topynetics PART-2 Marce StateAustractFounds topynetics PART-2 Parameter StateAustractFounds topynetics PART-2 Marce StateAustractFounds topynetics PART-2 Parameter StateAustractFounds topynetics Parameter StateAustractFounds topynetics Parameter Instructure Constructure Constructure Constructure Res Constructure		iption (Form 3	E) Paraterial Nove Dee Paraterial Nove Dee Paraterial Parateri	Antibiotic Justification Form 4. Culture Serzi - YES / NO <u>Sto</u> <u>Culture Sample</u> <u>Culture sert on (Date)</u> <u>Culture Result</u>
Policy for Timely administration of scheduled medications	Updation of Antimicrobial policy	Insulin Policy	Need of the Data Benugiti Least Least Valet By: Disactified by: Inform Disactified by: Inform Data Bitsocified Disactified by: Inform Data Bitsocified Disactified Disactified Disactified Disactified Parameter Disactified Disactified	Brown Characterian	Binuth Data Data Data Discrited by (bles wethlicht)	Bit Norm of the Drug Bit ways Description Description Description Used Dr Description Description </th <th>1 2 3 4 3 4 4 5 5 Continued / Discontinued Escalated De-escalated Changed as per the culture and sensitivity report. 6. If changed, Name of the Autobiotic: Name of the Consultard</th>	1 2 3 4 3 4 4 5 5 Continued / Discontinued Escalated De-escalated Changed as per the culture and sensitivity report. 6. If changed, Name of the Autobiotic: Name of the Consultard
permission to use my/my patient's own medication Reason for asking permission	(Patient/Authorized person) request you to grant	Grant Medical Foundation Registration No. : Age / Sec: Primary Consultant For the Safety of the Patient Doctors : 1. Write the orders in legble handwriting and CAPITAL LETTERS. 2. Write the orders in legble handwriting and CAPITAL LETTERS. 2. Write the orders in legble handwriting and CAPITAL LETTERS. 2. Write the orders in legble handwriting and CAPITAL LETTERS. 3. Write the orders in legble handwriting and CAPITAL LETTERS. 3. Write the order in drug therapy on to devertive or sorthole in existing of 4. A cancellation of drug therapy not be denoted by a clear line through the 5. All post operative medications must be written on medication chart. 6. Heightight the medications requiring motioning and advise montoring the NURSE : 1. Occurrent the actual time of administration. 3. Write reason fi medicine is not administreed or refused by patient. 4. Orga administration to be carried out a ser exolow.	OR PASTE PATIENT STICKER Comp Comp	Noos Medication History (From Home to patient care area) Dose Image: Constraint care area) Dose Dose Free Roma Dose Dose		WINSY: Balance WINSY: Total USED for PUTION OF MICHANICAL VINTELATOR NUMBLY: Description VINSY: Total USED for PUTION OF MICHANICAL VINTELATOR NUMBLY: Total USED for PUTION OF MICHANICAL VINTELATOR VINSY: Total USED for PUTION OF MICHANICAL VINTELATOR VINTELATOR VINTELATOR	
Form for medic from ou		5. All the high alert medications should I	cation reconcilia	ation form	RISTATIVA2023 Pain Free NAM District District	assessment form for a	dult & Pediatric
Name & Sign of Patient Remark of Medical Executive Name & Sign: Nursing In charge / Supervisor Name & Sign:	Name & sign of Authorized person Relation with patient Informed Primary Consultant Yes No Director-Medical Services Name & Sign:	Bo not Use Interest Messing OD Once a day BD Twice a day cc millither uit Microgram g Gram m Millitgram IU or U International Units eld evector(evector) T Teblets Trailing zere after decimal point (g, 1, ong) 1 mg DP Neaded decimal point (E g, 5 mg) 0.5 mg	Professol Tem 1-0-0, 0-1-0, 0-0-1 1-0-1, 1-1-0, 0-1-1 mt Use "gm"		Scale Barrier Daniel Control C		Bank modure Conflicts Advancement Table Topology Pain Advancement Topology Statute to any Dodd Topology Dodd Topol





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







DRUG STORAGE STANDARDIZATION ACROSS THE HOSPITAL



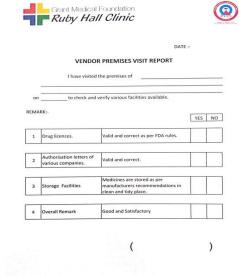
High risk cupboard in Pharmacy



Crash cart trolley for emergency medications



```
Pneumatic chute for fast delivery of medications
```



48. Sassoon Road, Pune - 411 001 (INDIA). Tet.: 020 - 4645 5100 (6



Cold	storage	for v	vaccines
	010.000		

Vendor Site visit & evaluation





Practice of red dot stickers on High risk drugs



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

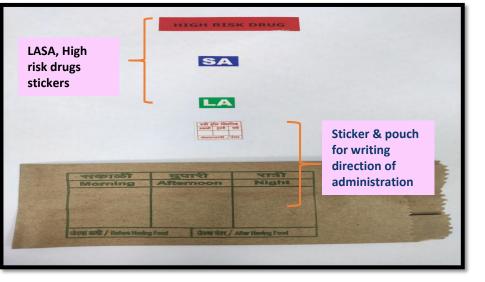




IMPLEMENTATION OF VARIOUS STICKERS FOR MEDICATION SAFETY



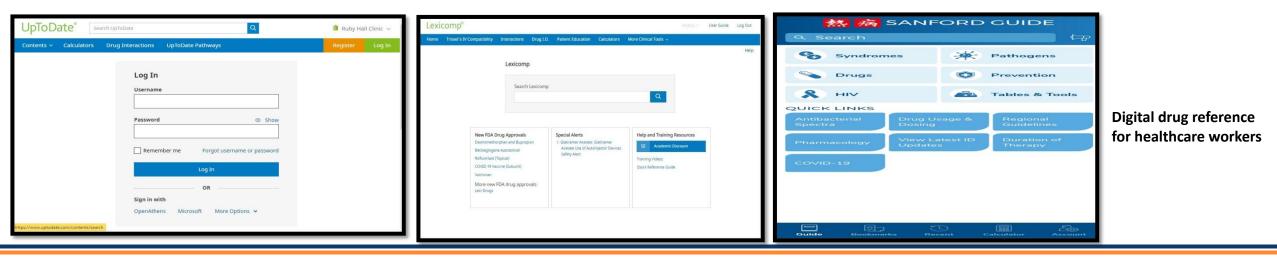
IV infusion stickers



Stickers for storage & Direction of administration



BMW sticker fro disposal for chemotherapy drugs

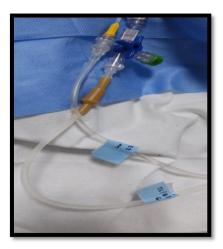








Misconnection policy





Arterial line

Venous Line



Epidural line

Designed & Displayed signages for medication safety





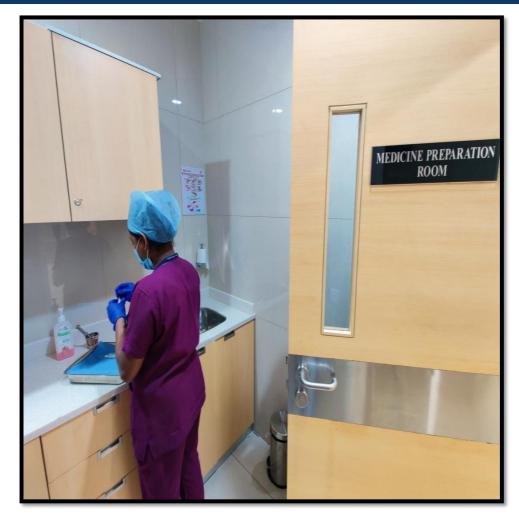








DEDICATED MEDICATION PREPARATION AREA



Medication preparation area



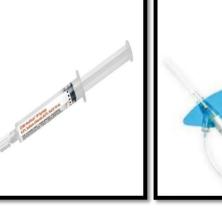
Bio-safety cabinet for preparation of hazardous drugs





SAFETY ENGINEERED DEVICES FOR MEDICATION ADMINISTRATION





Blunt needle

Pre-filled syringe

Safety intracath



Sterile Nitrile gloves

Implementation of Multi dose vial policy



Cut strip policy







Air vent IV set



Needleless adaptor



Implementation on single use Insulin policy



TRAINING & EDUCATION SESSIONS FOR ALL HEALTHCARE WORKERS

















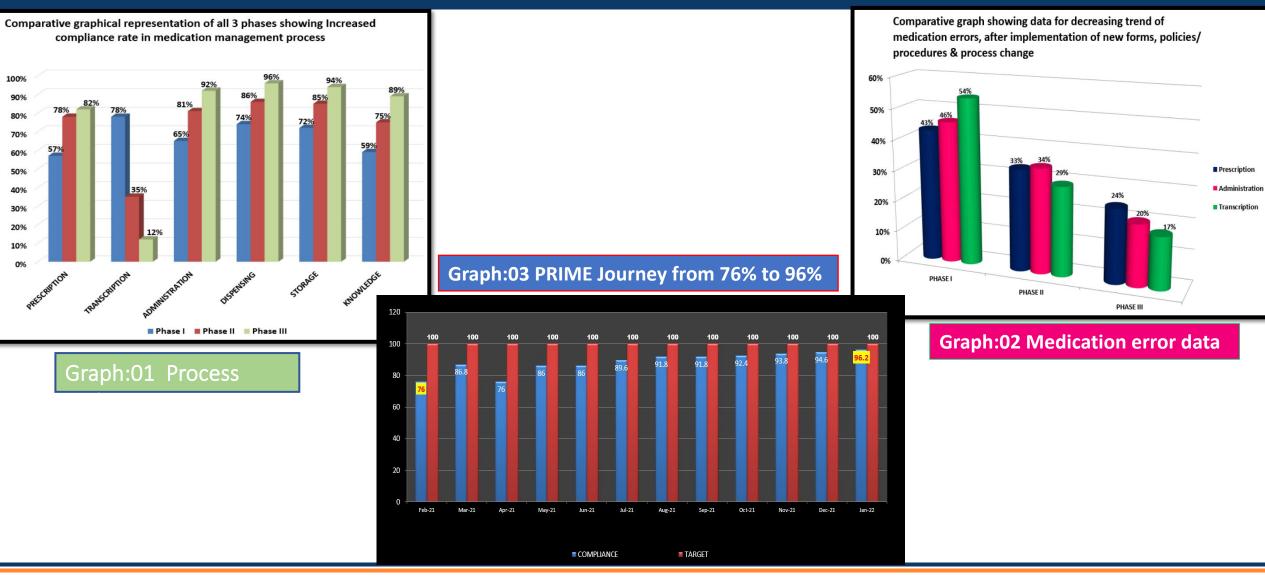








GRAPHICAL REPRESENTATION OF PROCESS AUDIT & MEDICATION ERROR IN ALL 3 PHASES



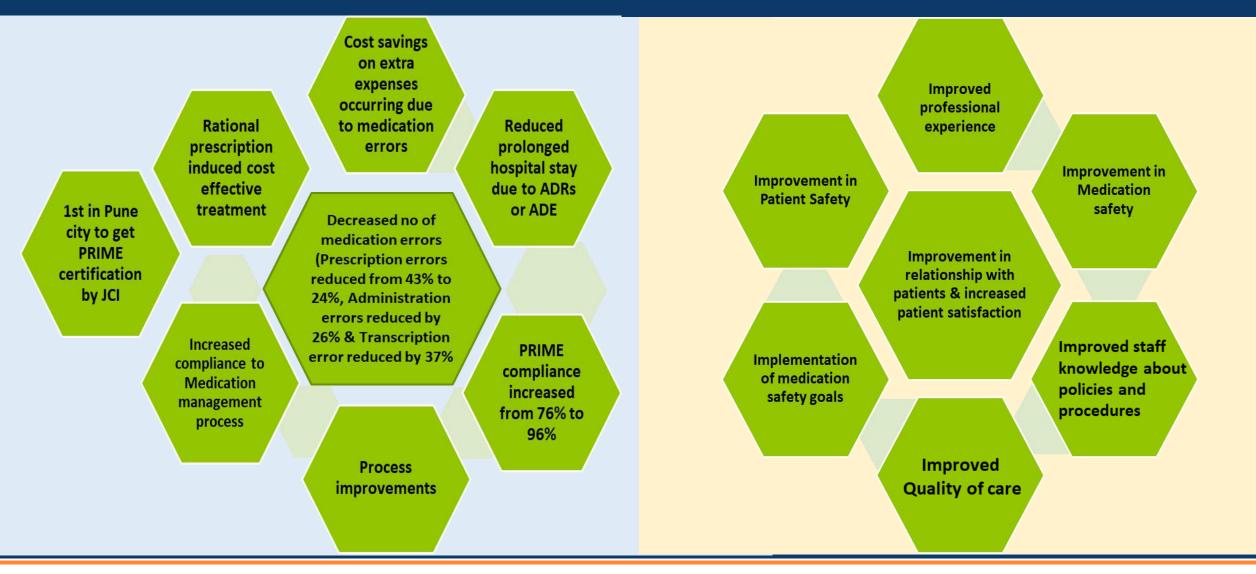


18



TANGIBLE RESULTS

INTANGIBLE RESULTS







CONCLUSION

ACKNOWLEDGEMENT

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. 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.





