Institute for Healthcare Improvement

مؤسسة حمد الطبية
Hamad Medical Corporation
HEALTH • EDUCATION • RESEARCH صحة • تعليم • بحوث

Middle East Forum

2016

Medicine Reconciliation

Faculty

- Shady Botros (IHI)

- Anas Hamad (HMC)

Description

"Patients often receive new medications or have changes made to their existing medications at times of transitions in care. Although most of these changes are intentional, there is a significant risk of miscommunication and unintended changes when patients get in or out of hospital or move between different care providers. On admission to a hospital, or during a visit to a clinic or physician office, it is vital to accurately know what medications a patient is taking in order to develop a safe and appropriate treatment plan. Medicines reconciliation can reduce incidents of avoidable medicines-related harm by generating an accurate and up to date medication list to help avoid prescribing errors, missed doses and miscommunication hence ultimately improving patient safety.

During this session the faculty will describe the process of medication reconciliation, its benefits and offer suggestions on how to implement a successful program"

Objectives

- Describe the steps involved in medication reconciliation
- List the measures needed to determine the effectiveness of a medication reconciliation process
- Discuss the role of healthcare providers and patients in medication reconciliation
- Discuss ideas on how to develop and enhance a Med Rec process

What does Medicine Reconciliation mean to you?

Medicine Reconciliation is....

A formal process for identifying and correcting **unintentional** medication discrepancies across any **transitions of care**

WHY?

- When people move from one care setting to another, between 30% and 70% of patients have an error or unintentional change to their medicines(1)
  - 40% potential for moderate to sever harm(2)(3)

1.NICE guidelines (NG5). National Institute for Healthcare & Excellence. UK. March 2015
2.Cornish et al. Unintended medication discrepancies at the time of hospital admission. Arch inter Med. 2005.;165:424-429
3. Kwan J et al. Medicines reconciliation during transition of care as a patient safety strategy. A systemic review. Ann Intern Med. 2013; 158:397-403

Elaine's Story

- 29 years old
- Admitted to the acute surgical receiving unit on Friday at 18:40
- 2 day history of pain, redness & no pulsations in her left areteriovenous fistula
- Some intermittent pins & needles in her fingers
- Fisulta feels firmer than previously with the firmness now extending up her arm

Elaine's Story

- Hypertension
- Chronic renal failure requiring haemodialysis
- Fistula created in 2010
- Renal transplant in 2012

Elaine's Story – Day 1 (Fri)

Admitted by the ward doctor & her Medication history is obtained from a GP referral letter

Medication

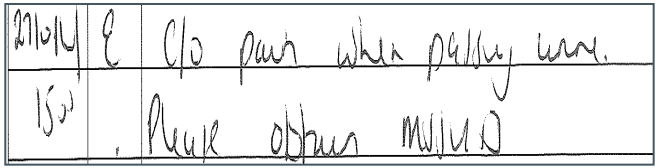
Current Date Commenced	Drug Details	Date Last Issue
17/04/2014	**Doxazosin Mesilate Tablets 4 mg** ONE TO BE TAKEN EACH DAY 56 TABLET	14/10/2014P
17/04/2014	**Tramadol Hydrochloride Capsules 50 mg** 1 CAP 3 TIMES DAILY 84 CAPSULE	14/10/2014P
07/08/2013	**Prednisolone Tablets 5 mg** 1 TAB MANE 56 TABLET	11/09/2014P
15/11/2012	**Atenolol Tablets 25 mg** ONE TO BE TAKEN EACH DAY 56 TABLET	14/10/2014P
26/07/2012	**Folic Acid Tablets 5 mg** 1 TAB DAILY 56 tablet	04/08/2014P
26/07/2012	**Hydroxocobalamin Solution for injection 1 mg/ml, 1 ml ampoule** TO BE INJECTED THREE MONTHLY 1*5 ampoule	10/04/2014P
23/07/2012	**Ranitidine Tablets 150 mg** 1 TABLET TWICE DAILY 112 TABLET	11/09/2014P
23/07/2012	**Adcal-D3 Chewable tablets Tutti Frutti** ONE TO BE TAKEN TWICE A DAY 112 TABLET	29/05/2014P

Elaine's Story - Day 2 (Sat)

- Reviewed by vascular surgery team
- Diagnosed with fistula thrombus
- High dose LMWH
- Radiological investigation to explore extent of clot

Elaine's Story – Day 4 (Mon)

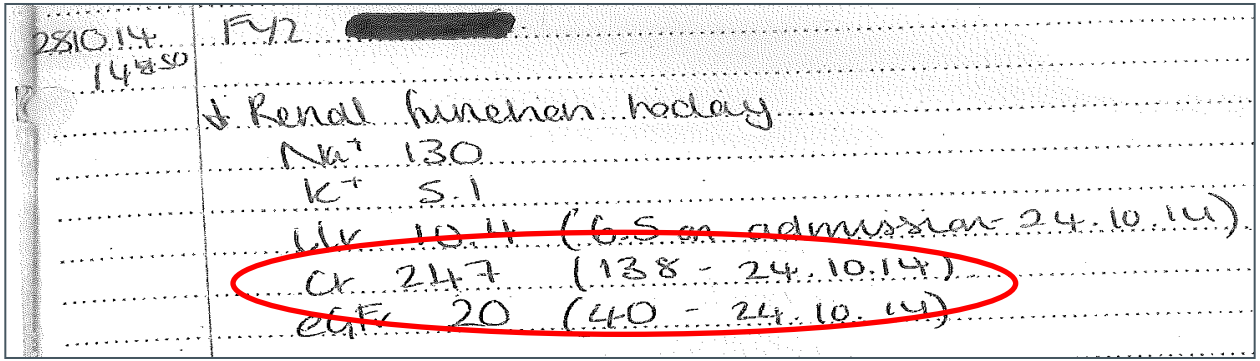
Evening,



27/10/14	E	C/o pain when passing urine.
15:00		Please obtain MSU

27.10.14	(N)	Seen at errorcy Nil dietary
20.50		intake this shift
	(RUP)	treatment plan & insitu relieving
		independently.
	(m)	mobilising independently.
	(O)	SEWS ⓞ. remain 8°
	(E)	some discomfort whilst passing
		urine. Urinalysis taken and
		sample sent.

Elaine's Story - Day 5 (Tues)



28/10/14 14:50

FY2 [redacted]

↓ Renal function today

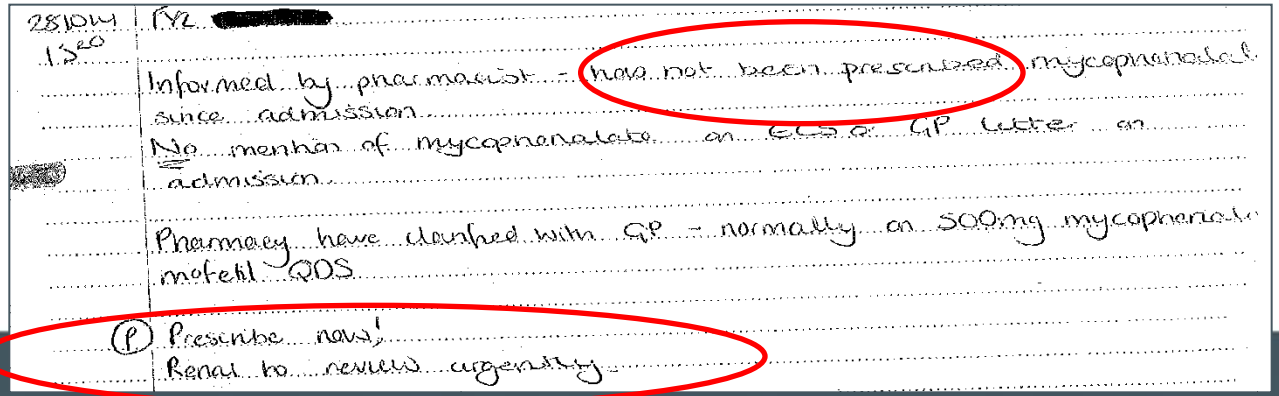
Na^+ 130

K^+ 5.1

Urea 10.4 (6.5 on admission - 24.10.14)

Cr 247 (138 - 24.10.14)

eGFR 20 (40 - 24.10.14)



28/10/14 13:20

FY2 [redacted]

Informed by pharmacist - have not been prescribed mycophenolate since admission

No mention of mycophenolate on ECG & GP letter on admission

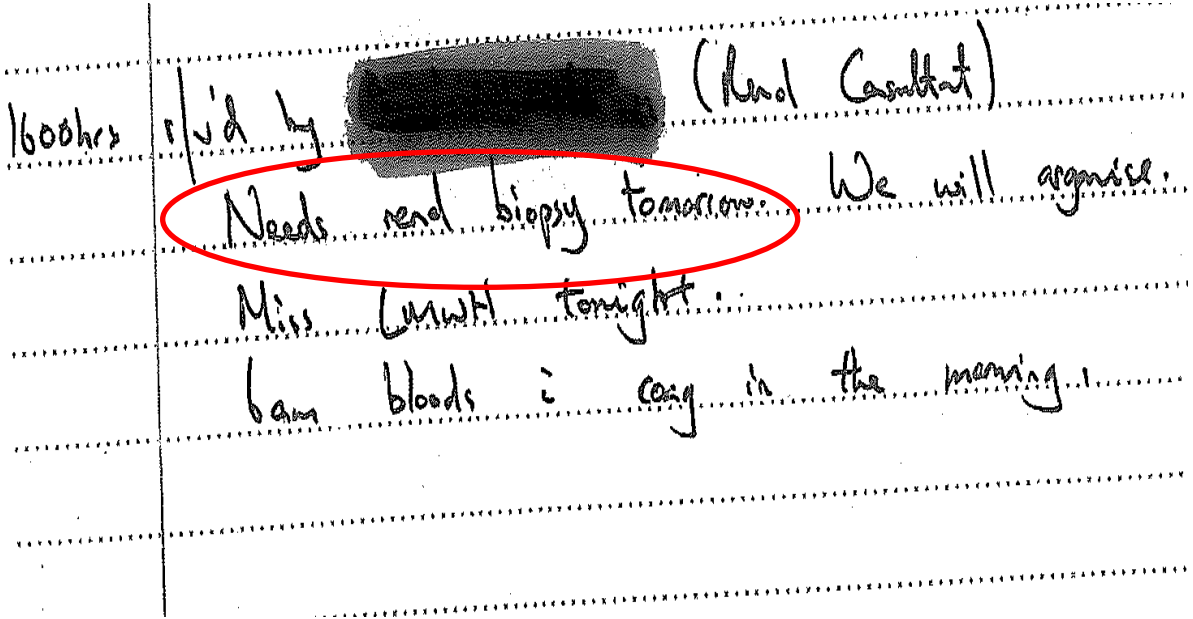
[redacted]

Pharmacy have clerked with GP - normally on 500mg mycophenolate mofetil BD

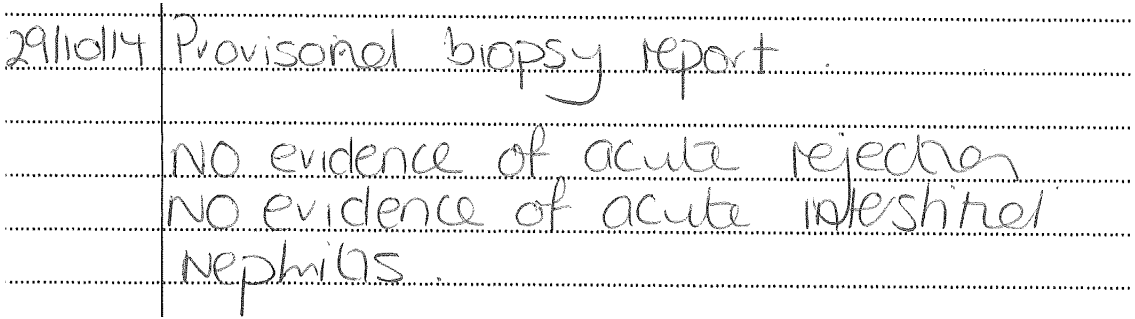
(P) Prescribe now!

Renal to review urgently

Elaine's Story - Day 5 (Tues)



Elaine's Story - Day 6 (Wed)



Elaine is discharged 2 days later with no complications

Elaine's Story

How did the pharmacist know???

Medication

Current Date Commenced	Drug Details	Date Last Issue
17/04/2014	**Doxazosin Mesilate Tablets 4 mg** ONE TO BE TAKEN EACH DAY 56 TABLET	14/10/2014P
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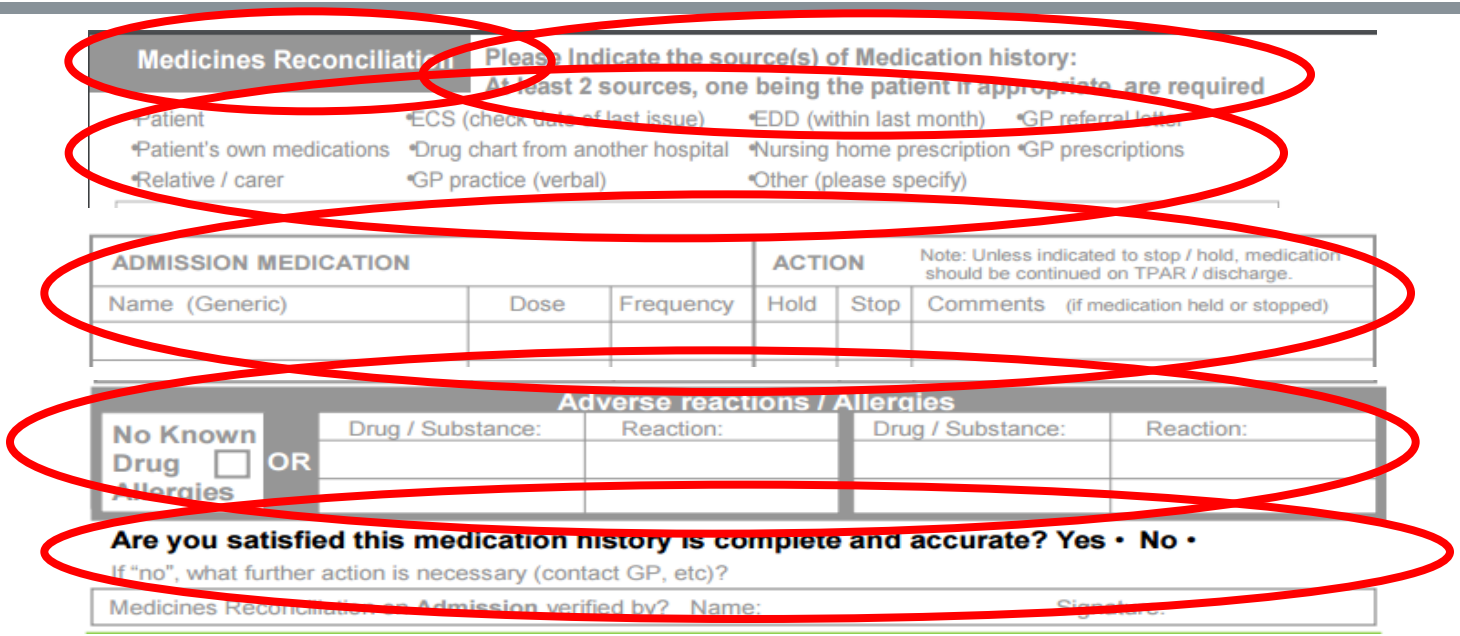
HOW?

- Formal process that involves THREE Key components:
  - **C**OLLECT
    - Patient (where possible)
    - Prescription & Non-prescription
  - **C**ONFIRM
    - Multiple sources
  - **C**OMMUNICATE
    - Medical Record (standard & visible)

Tip 1. Standardisation



Medicines Reconciliation — **Please indicate the source(s) of Medication history:**
At least 2 sources, one being the patient if appropriate, are required

- Patient
- ECS (check date of last issue)
- EDD (within last month)
- GP referral letter
- Patient's own medications
- Drug chart from another hospital
- Nursing home prescription
- GP prescriptions
- Relative / carer
- GP practice (verbal)
- Other (please specify)

ADMISSION MEDICATION			ACTION		Note: Unless indicated to stop / hold, medication should be continued on TPAR / discharge.
Name (Generic)	Dose	Frequency	Hold	Stop	Comments (if medication held or stopped)

Adverse reactions / Allergies

No Known Drug Allergies ☐ OR	Drug / Substance:	Reaction:	Drug / Substance:	Reaction:

Are you satisfied this medication history is complete and accurate? Yes • No •

If "no", what further action is necessary (contact GP, etc)?

Medicines Reconciliation on Admission verified by? Name: Signature:

Tip 1. Standardisation

Medicines Reconciliation

Please Indicate the source(s) of Medication history:
At least 2 sources, one being the patient if appropriate, are required

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- Drug chart from another hospital
- Nursing home prescription
- GP prescriptions
- Relative / carer
- GP practice (verbal)
- Other (please specify)

If the patient is taking
Aspirin, Clopidogrel(*Plavix*®), Dipyridamole (*Persantin*®), Warfarin, Rivaroxaban, Apixaban or Dabigatran
then contact senior medical staff for advice regarding continuation of therapy.
If unavailable then **WITHOLD** therapy until senior review within 24 hours

ADMISSION MEDICATION			ACTION		Note: Unless indicated to stop / hold, medication should be continued on TPAR / discharge.
Name (Generic)	Dose	Frequency	Hold	Stop	Comments (if medication held or stopped)

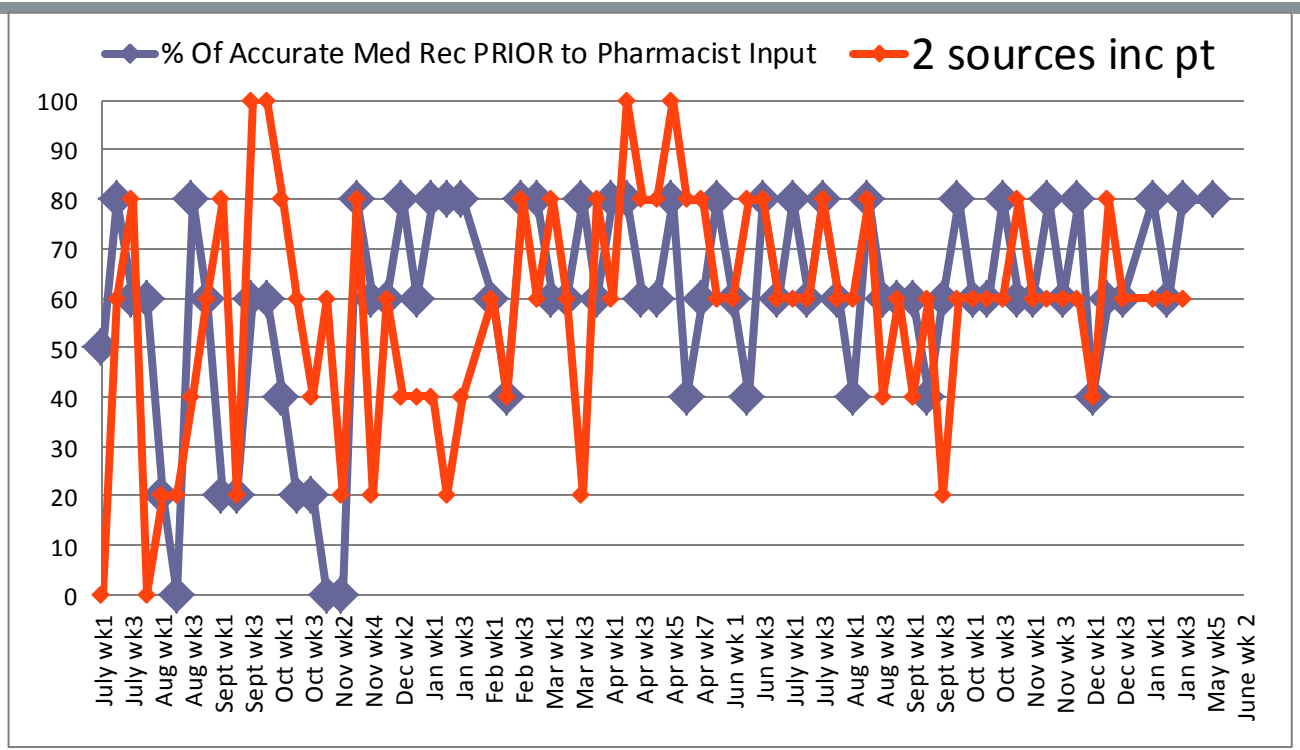
Are you satisfied this medication history is complete and accurate? Yes • No •

If "no", what further action is necessary (contact GP, etc)?

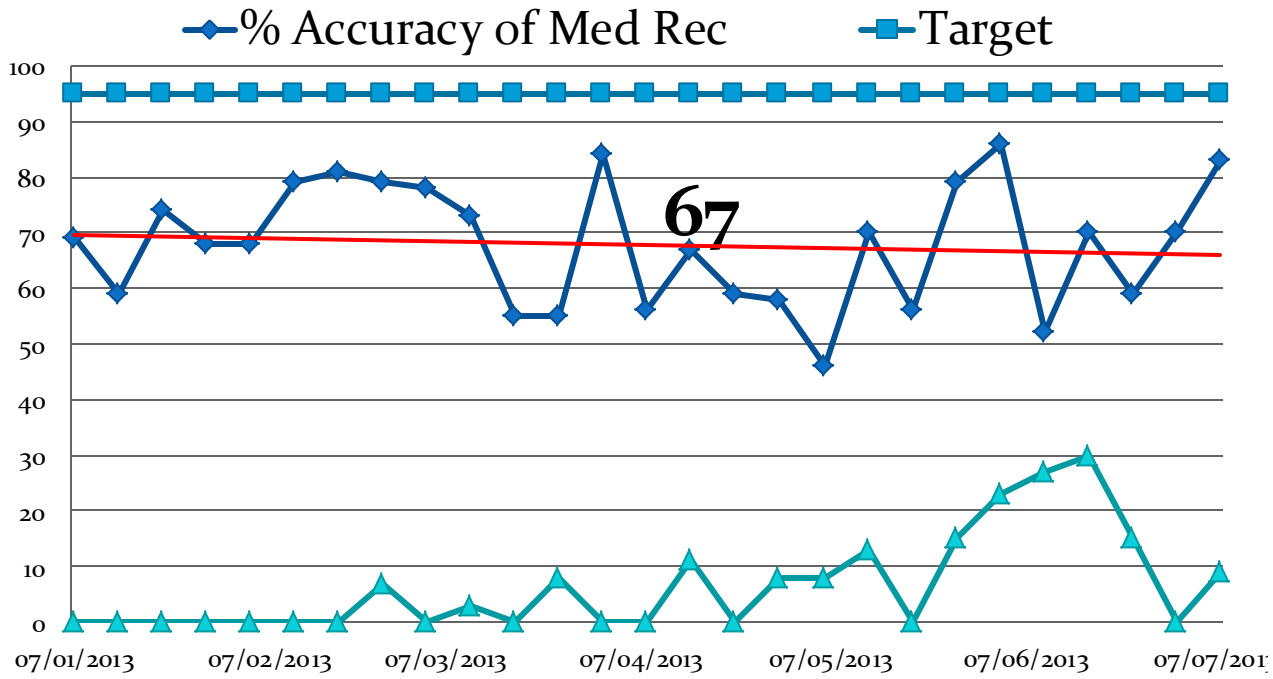
Medicines Reconciliation on **Admission** verified by? Name: Signature:

Social Care: Home Help • District Nurse • Meals on wheels •

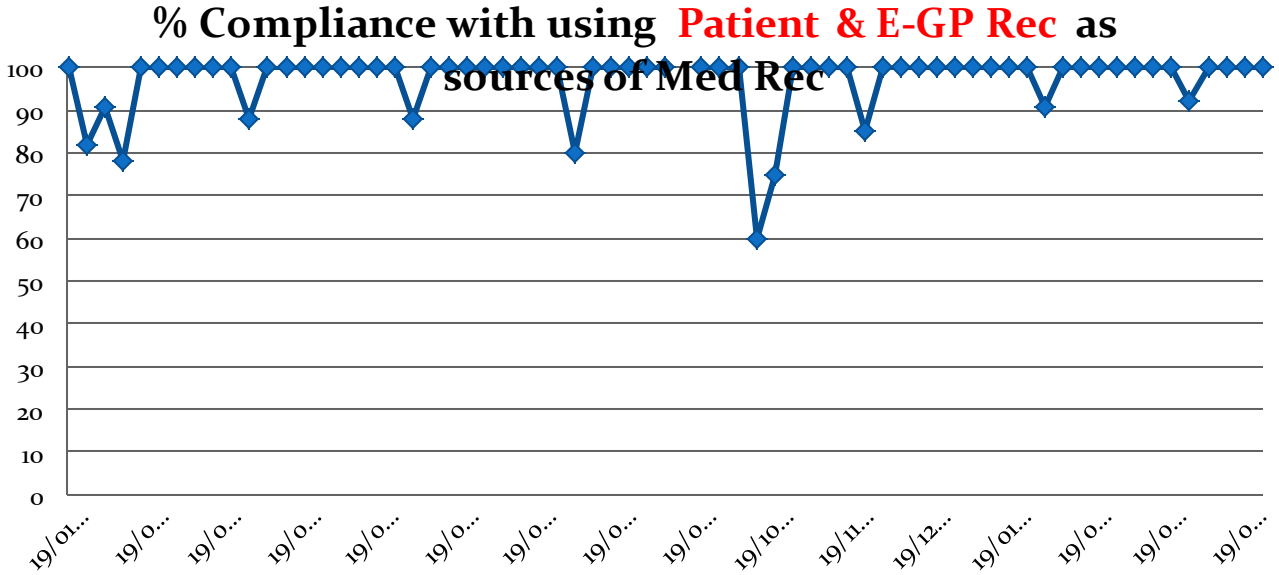
Using 2 sources incl Patient



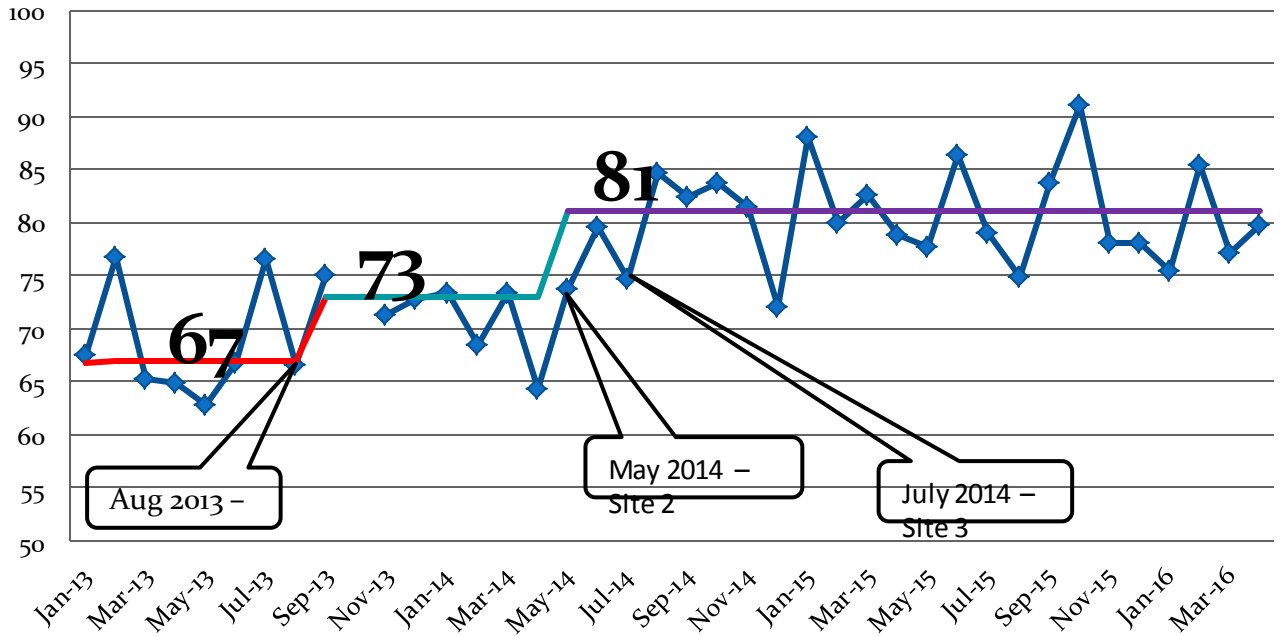
Using Patient & Electronic GP record



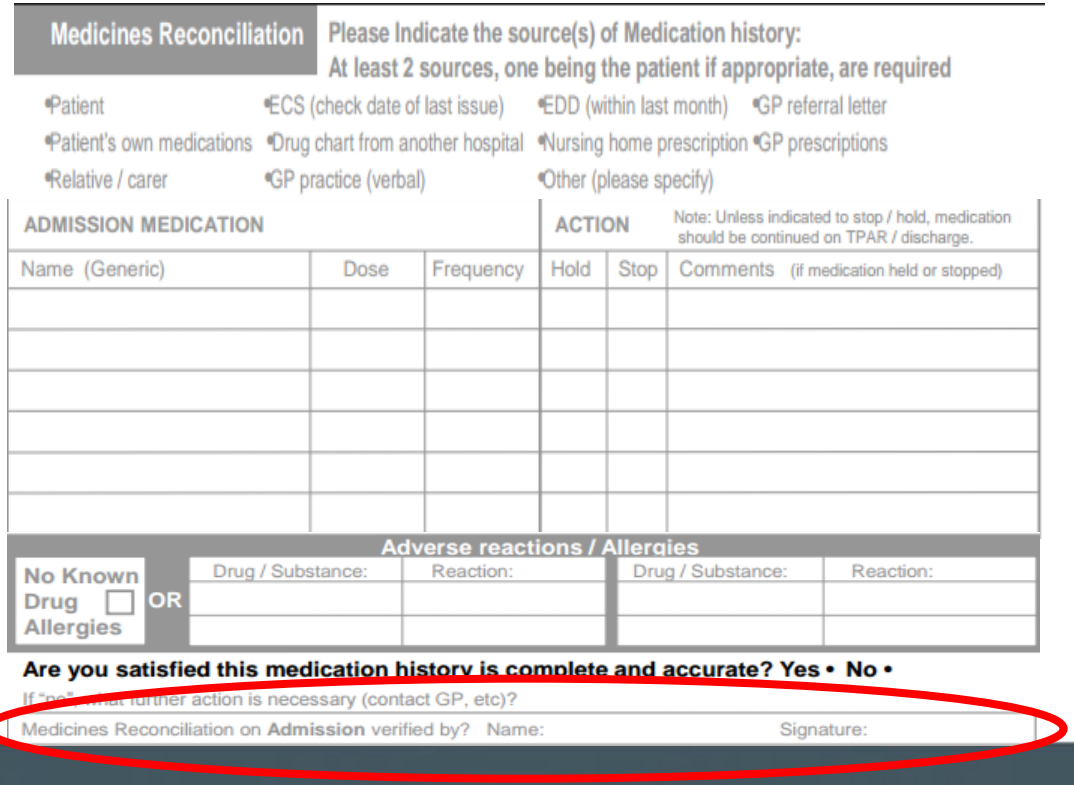
Using Patient & Electronic GP record



Using Patient & Electronic GP record



Tip 2. Verification



Medicines Reconciliation Please Indicate the source(s) of Medication history:
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- Relative / carer
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- Other (please specify)

ADMISSION MEDICATION			ACTION		Note: Unless indicated to stop / hold, medication should be continued on TPAR / discharge.
Name (Generic)	Dose	Frequency	Hold	Stop	Comments (if medication held or stopped)

Adverse reactions / Allergies

No Known Drug Allergies ☐ OR

Drug / Substance:	Reaction:	Drug / Substance:	Reaction:

Are you satisfied this medication history is complete and accurate? Yes • No •

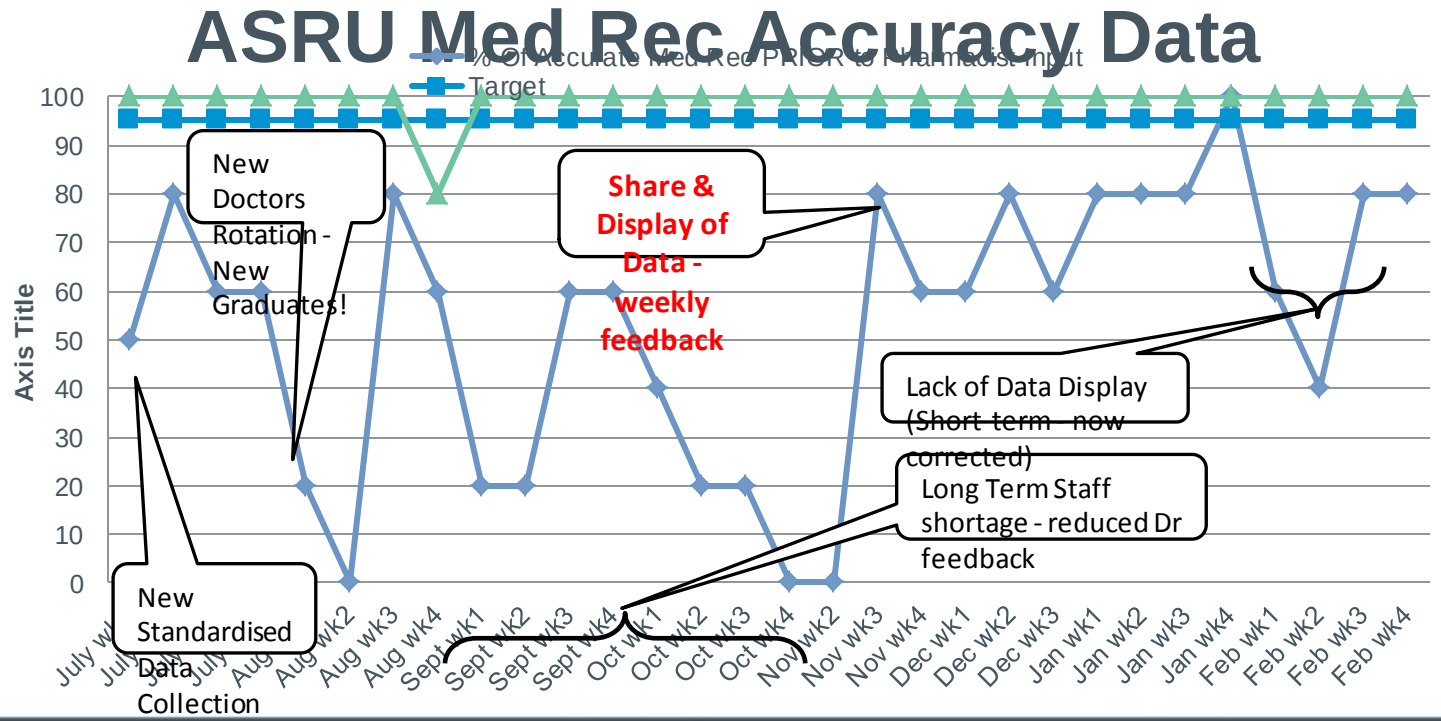
If "no" what further action is necessary (contact GP, etc)?

Medicines Reconciliation on **Admission** verified by? Name: Signature:

Tip 3. Data Collection

- Monitoring
  - Improvement (not judgment)
  - Sharing

Share & Display of Data



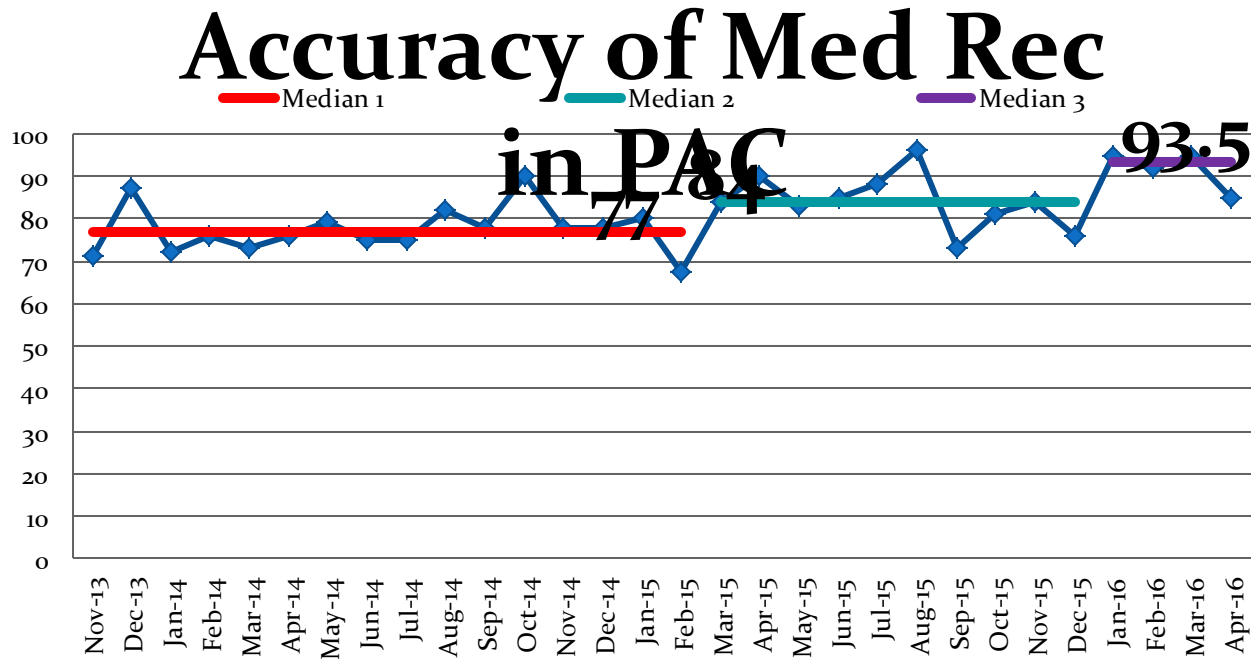
How is Medicine Reconciliation undertaken in your organisation?

WHO? WHAT? WHEN?

HOW to start?

- Segmentation
  - Med Rec on admission
  - Test in pilot site(s)
- Multidisciplinary Responsibility
  - Avoid over-reliance on Pharmacy
- Standardise
  - Definition, Roles, Time frames, Measures
- Patient Engagement
  - Education

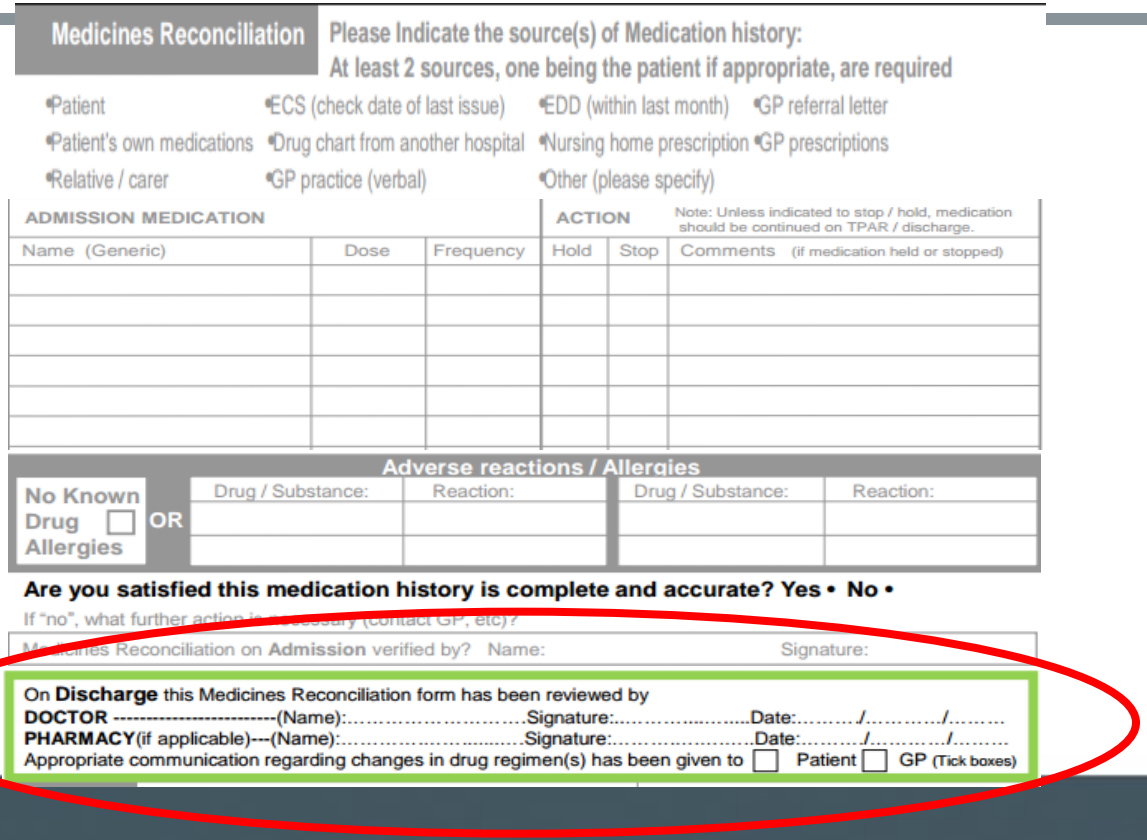
Nurse Lead Pre-assessment Clinic (PAC)



Next….

- Med Rec on discharge
  - Reliant on Med Rec on admission

Med Rec on Discharge



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Adverse reactions / Allergies

No Known Drug Allergies ☐ OR

Drug / Substance:	Reaction:	Drug / Substance:	Reaction:

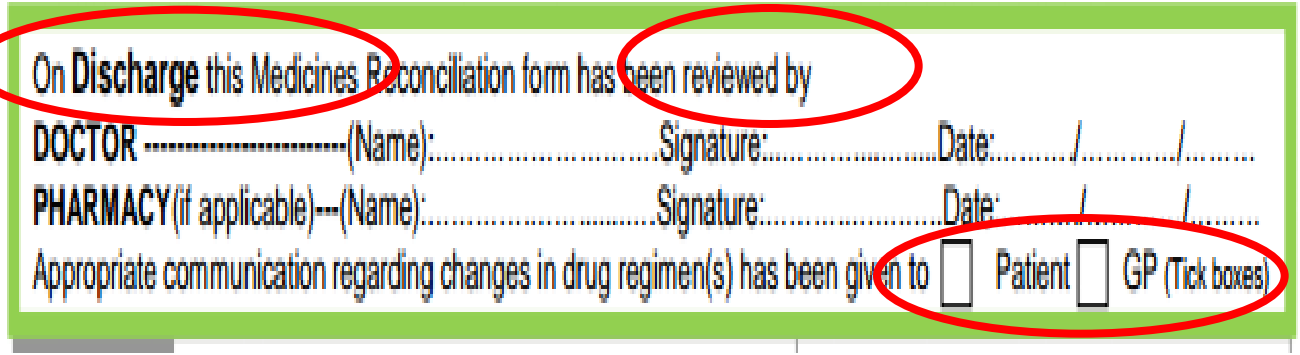
Are you satisfied this medication history is complete and accurate? Yes • No •

If "no", what further action is necessary (contact GP, etc)?

Medicines Reconciliation on **Admission** verified by? Name: Signature:

On **Discharge** this Medicines Reconciliation form has been reviewed by
DOCTOR ----------(Name):……Signature:……..…..Date:……/……/……
PHARMACY(if applicable)---(Name):……..…..Signature:……..Date:……/……/……
Appropriate communication regarding changes in drug regimen(s) has been given to ☐ Patient ☐ GP (Tick boxes)

Med Rec on Discharge



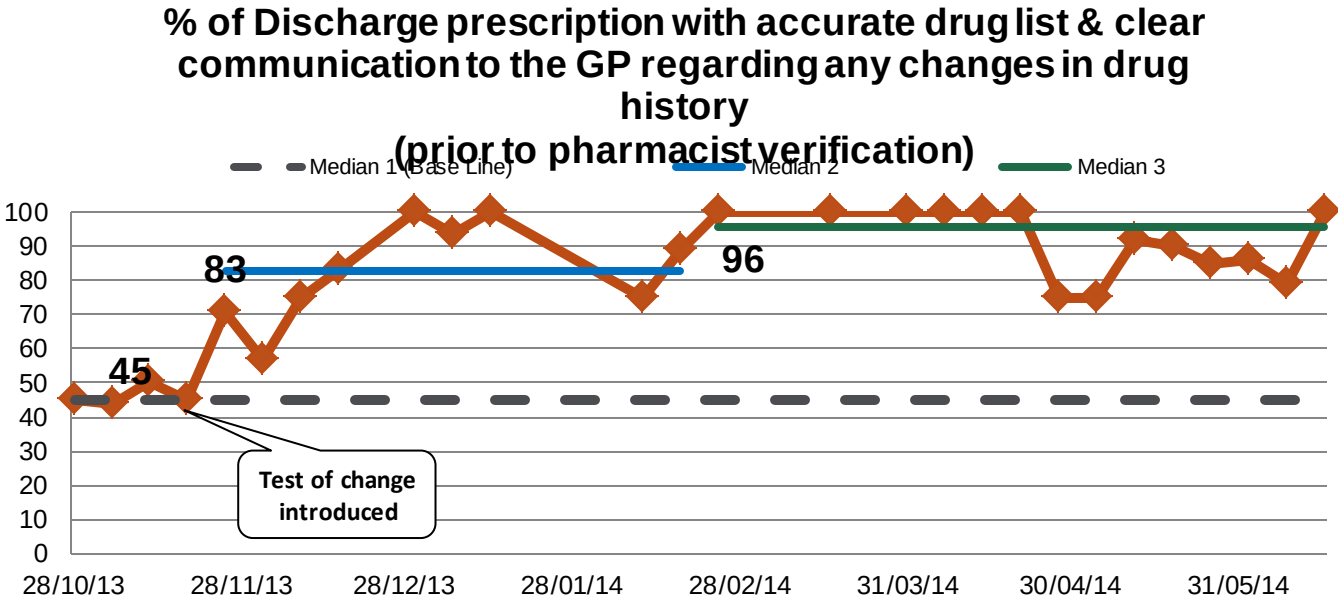
On **Discharge** this Medicines Reconciliation form has been reviewed by

DOCTOR ----------(Name):.....Signature:.....Date:...../...../.....

PHARMACY(if applicable)---(Name):.....Signature:.....Date:...../...../.....

Appropriate communication regarding changes in drug regimen(s) has been given to ☐ Patient ☐ GP (Tick boxes)

Med Rec on Discharge



Next….

- Med Rec on transfer
  - Reliant on Med Rec on admission
  - Critical Care Areas

Med Rec on Transfer

ICU Medicines Reconciliation Form

Name:	Date of Hospital Admission:.....
CHI:	Date of ICU Admission:.....
	Date of ICU Discharge:.....

Please indicate the source(s) of Medication history:
At least 2 sources, if appropriate, are usually required

☐ Patient	☐ ECS (check date of last issue)	☐ EDD (within last month)	GP referral letter
☐ Patient's own medications	☐ Drug chart from another hospital	☐ Nursing home prescription	GP prescriptions
☐ GP practice (verbal)	☐ Drug chart from another ward	☐ Relative / carer	☐ Other (specify).....

Medicine (Generic)	Dose	Frequency	Route	Time of initiation of therapy (Place a (√) in the appropriate box below)			Action During ICU Stay	Plan following ICU discharge
				Prior to hospital admission	Hospital stay prior to ICU admission	ICU		
Bisoprolol	2.5mg	OD	PO	√			Hold	Re-start
Phenytoin	300mg	OD	NG			√		Stop
Amoxicillin	1g	TDS	NG		√		Continue	Stop in 3 days

Are you satisfied this medication history is complete and accurate? Yes No

If "NO", what further action is necessary (contact GP, etc)?

Medicines Reconciliation completed by? Doctor:.....Signature:.....

Medicines Reconciliation verified by? Name:.....Signature:.....

Medication Reconciliation in Qatar

A focus to HMC

Ministry of Public Health (MOPH)

Medication reconciliation is one of the Health Service Performance Agreement (HSPA) indicators defined by the MOPH under the Performance and Efficiency Dimension.

Hamad Medical Corporation

- HMC is running all governmental hospitals in Qatar (Primary, Secondary and Tertiary)
- 65-75% of medicine use in Qatar takes place in HMC
- It is mandated by HMC policy and JCI accreditation to do Med Rec for all patients upon admission and discharge.

Medication Reconciliation Policy at HMC

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POLICY/PROCEDURE

TITLE:	**PRESCRIBING OF MEDICATIONS**	ORIGINAL DATE: **AUGUST 2004**
IDENTIFICATION NUMBER:	**CL 6048**	LAST REVISION DATE: **NOVEMBER 2015**
HOSPITAL(S)	**All HMC HOSPITALS / ENTITIES**	NEXT REVIEW DATE: **NOVEMBER 2018**
		Sheet No. 6 of 7

3.24 **Initial medication orders**: (those written immediately after admission) must be compared to the list of medications taken prior to admission (Patient Medication Report):

3.24.1 This report is printed from the eMR viewer system

3.24.2 The physician must confirm that the report is an accurate record of all medications currently taken by the patient

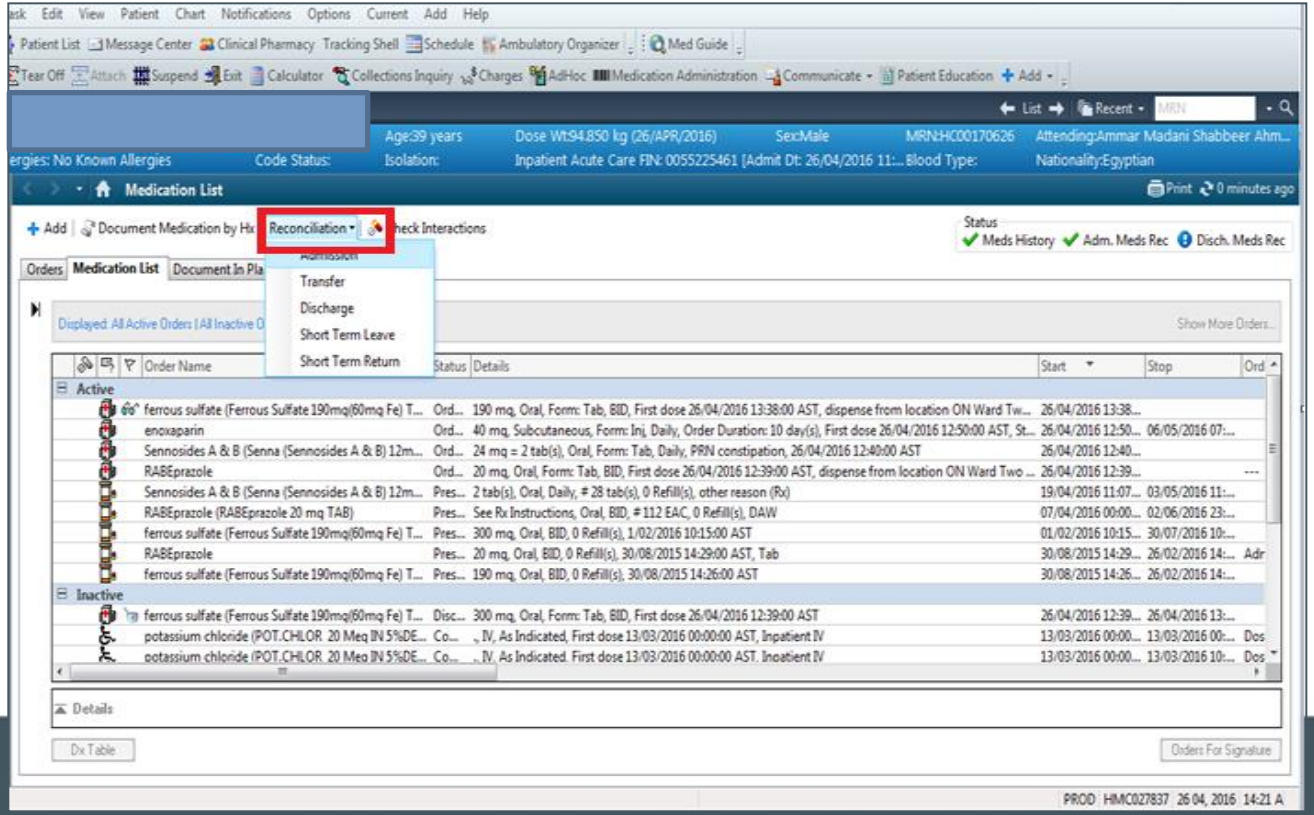
3.24.3 The report must be reviewed and updated (addition of medication, discontinuation, hold, etc) signed and stamped by the physician.

3.24.4 For Outpatient Summary (attached active medication list) refer to Policy No CL 6036.

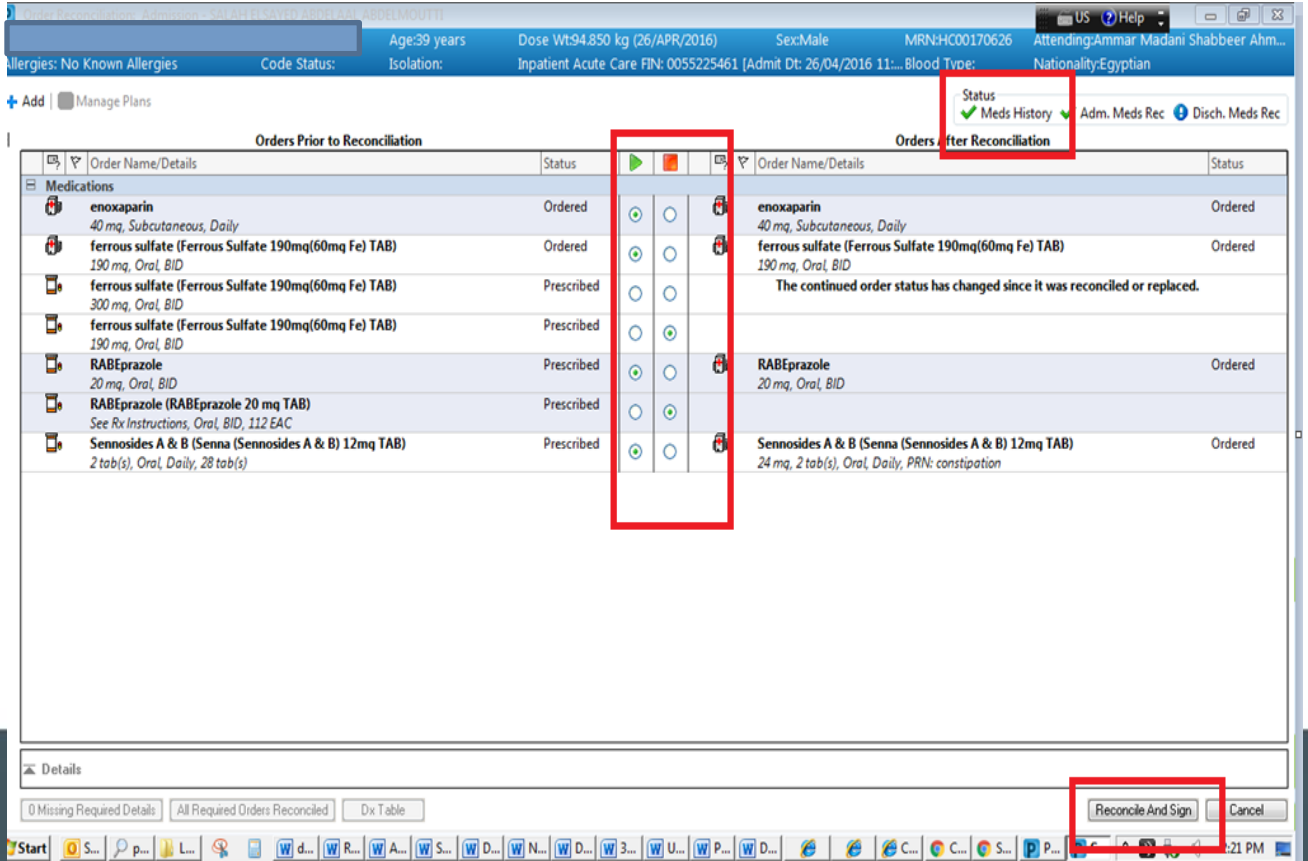
3.24.5 A copy of the report is then sent to pharmacy so that, the updated medication profile is used when the initial medication order is reviewed for appropriateness and where possible documented in the pharmacy management system (PMS) by the pharmacist, (Refer to Dispensing Policy CL 6049).

3.24.6 For patients admitted from Home Health Care Services (HHCs) to any HMC facility, the transfer referral summary shall contain the complete patient's medication record to update the current patient medication report and be compared with the initial physician's medication order prior sending to the pharmacy.

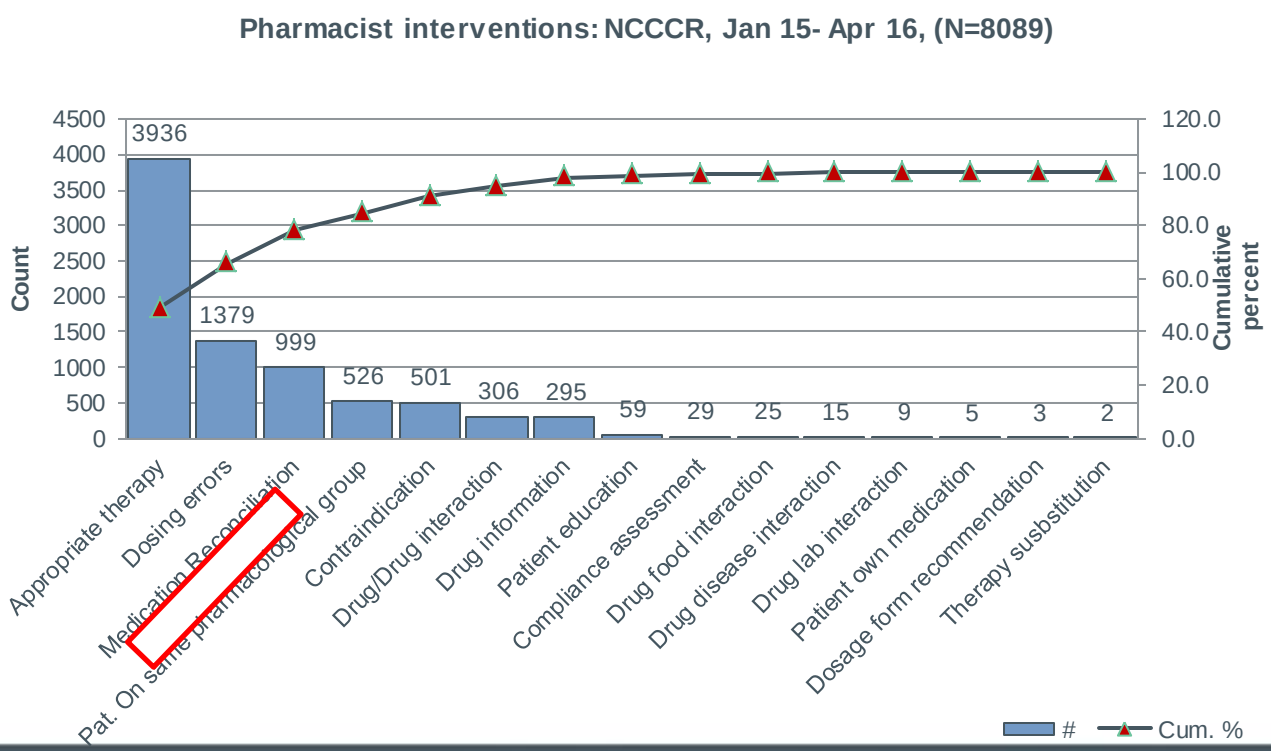
Med Rec in HMC



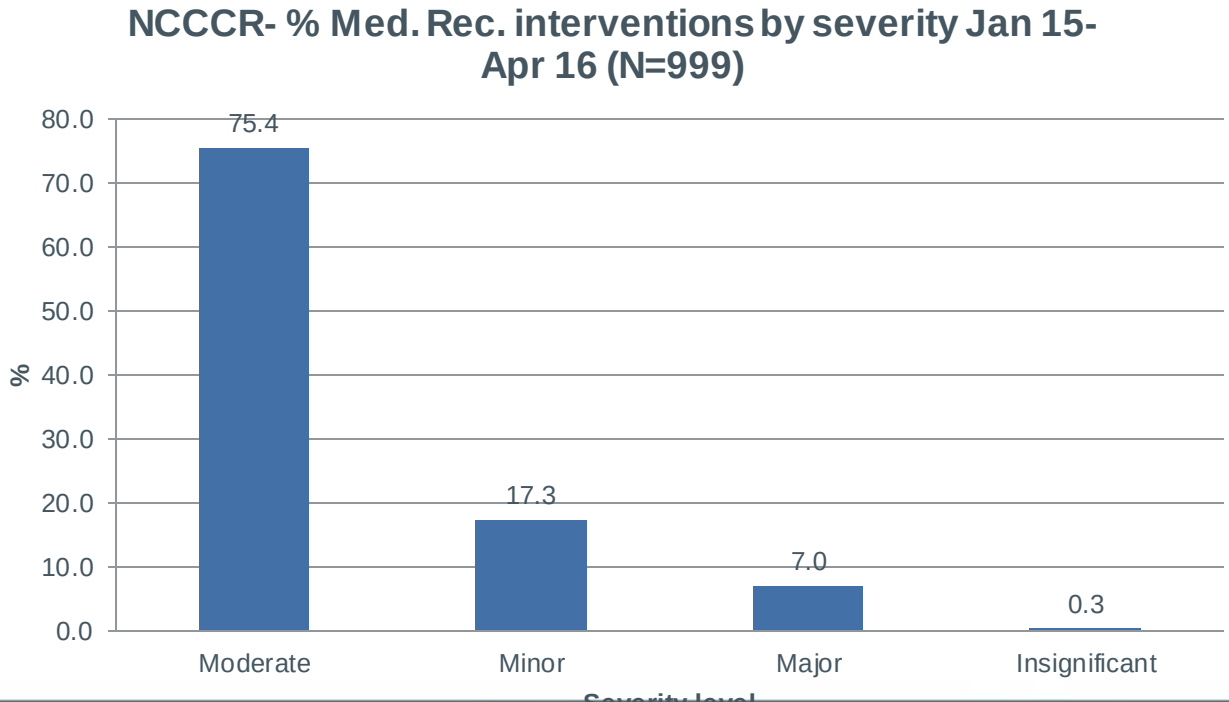
Med Rec in HMC



Med Rec in HMC



Med Rec in HMC



Efforts to improve Med Rec in HMC

Challenges identified following Cerner implementation:

- Physician **unfamiliarity** with the electronic system (**CERNER**).
- **Attending** physicians **leave** medication reconciliation process to be completed by rotating **residents** and do not follow them up.
- **Frequency** of resident rotation (every 3 months). As soon as a resident group is educated, it moves and a new group comes.
- The **value** of medication reconciliation was **not clear** to residents.
- **Reduced pharmacist involvement** in the process following Cerner.
- It's not easy for dispensing pharmacists to review medication reconciliation as it involves **opening** and **closing** of **several windows**.
- Medication reconciliation process is **optional in Cerner** and can be easily skipped which **contradicts** with HMC medication prescribing **policy** that states it is mandatory.

Efforts to improve Med Rec in HMC

- A multidisciplinary task force was created in the National Center for Cancer Care and Research (NCCCR) to tackle the low Med Rec compliance rates following implementation of Cerner.

- This task force involves a Physician, Nurses, Pharmacists, Quality Managers/Reviewers, Health Informatics Consultant.

- Generating a daily report through Cerner on the Med Rec status of all inpatients at hospital which is sent to the physician involved in the Task Force to follow up with concerned physicians and also to the Medication Safety Officer.

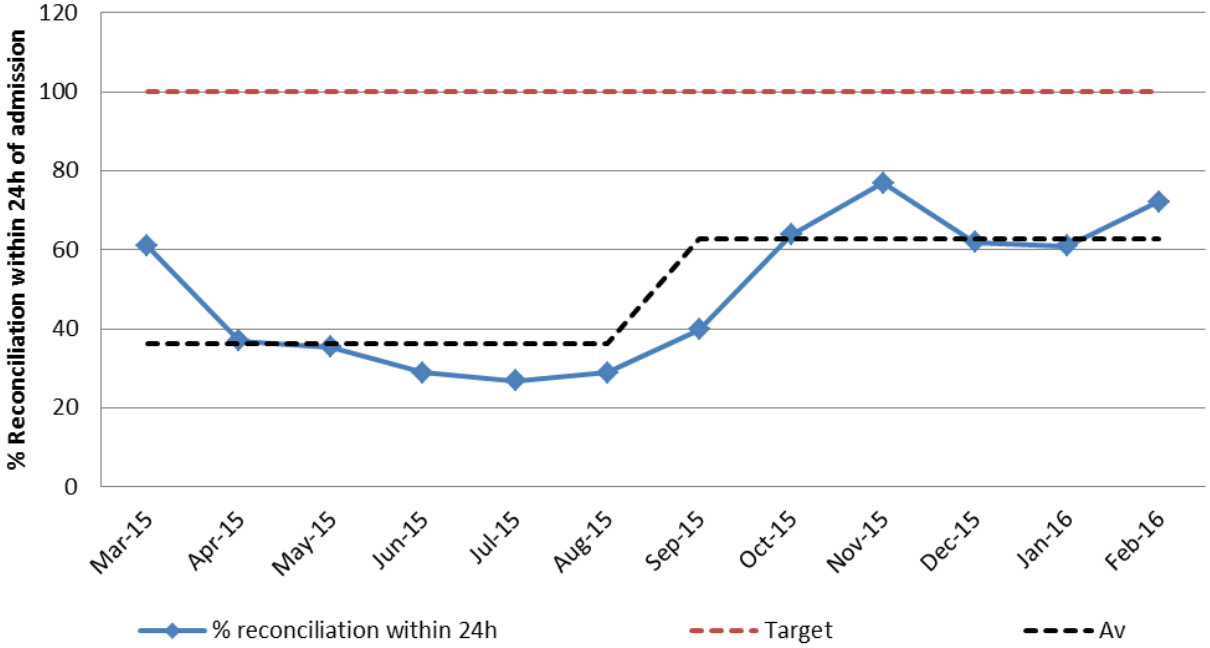
Efforts to improve Med Rec in NCCCR

Actions Taken:

1. **Formulation of a multidisciplinary task force**: To discuss/analyze reconciliation data on a monthly basis, identify areas for improvement, and recommend improvement strategies.
2. **Information sharing:** Discuss monthly data with physicians during routine physician morning meetings to raise the awareness about the criticality of medication reconciliation.
3. **Policy enforcement:** It's the responsibility of the attending physician to complete the reconciliation process or follow-up with the resident to ensure its completion.
4. **Promote multidisciplinary collaboration:** Have clinical pharmacist reviews and ensure the completion of the process for patients admitted in the previous day.
5. **Education:** Include medication reconciliation as an integral part of the rotating residents' orientation.
6. **Increase frequency of data monitoring:** Monitoring the status of medication reconciliation on a daily basis, and communicate deficiencies to the involved physician. Contacting attending physician if there is resistance.
7. **System (Cerner) related issues:** Identified and communicated with the CIS team.
8. **Leadership involvement:** Include medication reconciliation as a hospital quality & patient safety (QPS) indicator to enhance engagement of the hospital leadership.

Efforts to improve Med Rec in NCCCR

The average rate of medication reconciliation improved from 36.3% in 1st first half of the study period to 62.6% in the second half (P=0.005142).



Acknowledgments

- ADR and Medication Reconciliation Workgroup, NCCCR
- Dr. Mohammed AbdelWahid, Medication Safety & Quality Officer, NCCCR

Based on our discussion today, can you now define Medicine Reconciliation?

WHAT? WHO? WHY? WHEN?

Definition...

"Medicines Reconciliation (Med Rec) is a **formal process** in which **healthcare providers** partner with **patients** and their families to ensure **accurate** and **complete** medication transfer across all **interfaces of care**"

The High 5s Project - Standard Operating Protocol. Assuring Medication accuracy at Transition of care: Medicines Reconciliation. WHO. 2007

Last Tip….

“ The well informed patient is the best Medicines reconciliation tool”

Piyush Amin, Pharm D
Medication Therapy Coordinator
Seton Health System New York