Medication Reconciliation-

An approach towards patient's safety

Introduction

Medication errors are an important cause of morbidity and mortality and evidence suggests that around 50% of hospital medication errors occur due to inadequate reconciliation during admission, transfer, and discharge of patients. Around 30% of those errors can presumably cause harm to the patient.[1] Belda-Rustarazo et al reported that 64.5% of patients had at least one medication reconciliation error at hospital admission,[2] and the percent of patients with one or more medication discrepancies at hospital discharge has been reported to be between 14.1% and 32.4% [2,3]. The problem is not limited to the inpatient setting alone and studies in ambulatory care settings report that 26–87% of medication records are incomplete or have discrepancies between medicines taken by the patient and those documented in the patient record.[1] Other factors may also contribute to inaccurate medication lists and include advancing age of the patient, polypharmacy, patients' lack of information of their medications, complicated physician and nurse workflows, and lack of integration of patient health records across the continuum of care.

What Is medication reconciliation

Medication reconciliation is a formal and collaborative process in which healthcare providers work together with patients, families and care providers to ensure accurate and comprehensive medication information is communicated consistently across transitions of care.[4,5]

The process is designed to prevent most common medication errors such as prescribing a previously ceased medicine, duplication of therapy, inadvertently omitting a medication a patient was taking at home during a hospital stay; failing to ensure that home medications temporarily stopped during a hospital stay are restarted when the patient is transferred or discharged; duplicating medication orders

either because the patient may already be taking the drug or due to confusion between brand and generic versions of a drug or formulary substitutions; as well as prescribing incorrect dosages.

A number of international patient safety organisations such as the JCI, IHI and WHO recommend that medication reconciliation be carried out to minimise unintentional medical discrepancies at transition points of care.

Steps of medication reconciliation

The reconciling process includes a set of distinct processes that include;

- **Documenting** a list of home medications including OTC medications, vitamins, supplements etc
- **Clarifying** that the medications and dosages are still indicated and accurate.
- **Developing** a list of medicines to be prescribed
- **Reconciling** every single change to generate the most accurate list possible
- **Communicating** this list to the patient and providers who will assume care of the patient

Impact of Medication Reconciliation

There are a number of studies and systematic reviews showing that implementing a formal, multidisciplinary (pharmacists, nurses and physicians partnering proactively with the patient) medication reconciliation process can identify and rectify medication errors at points of transition before they cause harm. [5,6,7,8] There is also evidence to show that a successful medication reconciliation process can reduce workload and rework associated with patient medication management as well as result in substantial cost savings.[9,10]

The use of health IT solutions for Medication reconciliation

Despite all of this accumulating evidence and increasing regulatory requirements, most healthcare organizations are struggling to develop efficient tools and implementation strategies for medication reconciliation. Successful Med Rec is resource-intensive, time-consuming, requires multidisciplinary collaboration, and imposes a cognitive burden on clinicians and it is being increasingly acknowledged that the use of technology is essential if medication reconciliation is to be successfully implemented across the healthcare system.

Electronic medication reconciliation (eMedRec) tools are computerized tools that can help to improve the efficiency of the MedRec process. The availability of a centralised medication reconciliation functionality can lead to a dramatic reduction in errors of omission, commission and adverse drug reactions associated with poor medication reconciliation practices.

Napier eMedRec module

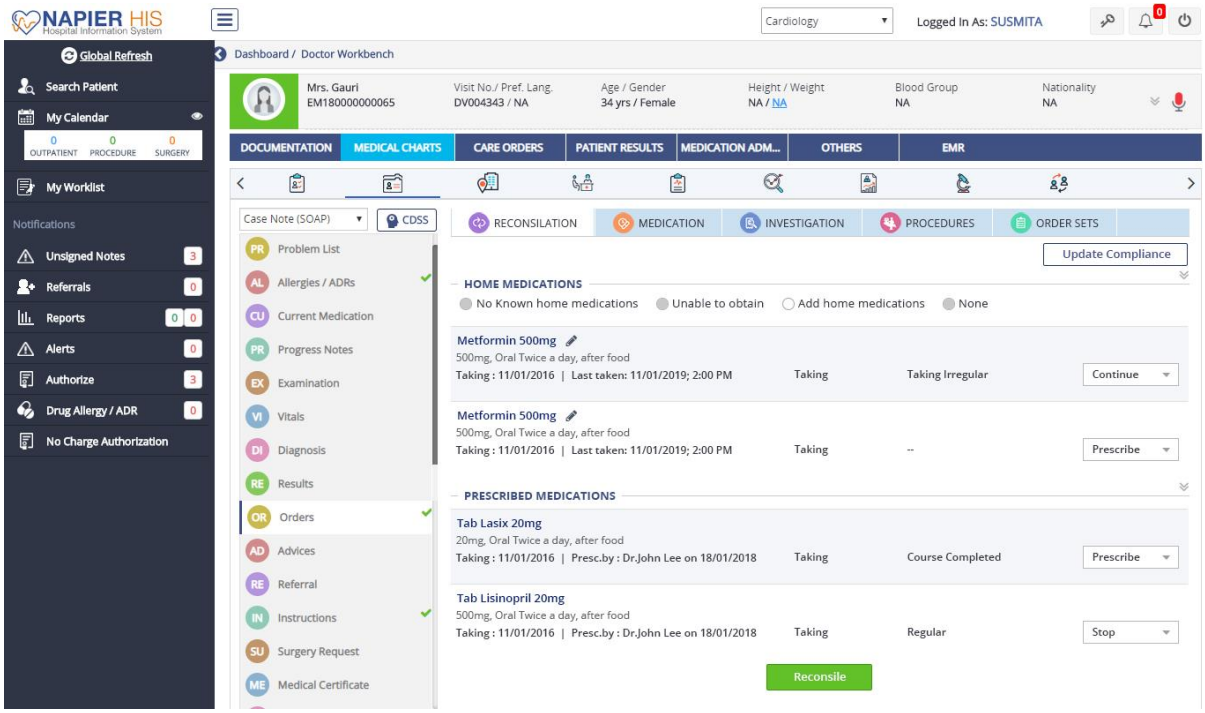
Napier healthcare has a user friendly, robust medication reconciliation functionality that includes intuitive and friendly user interfaces that support the various steps in the medication reconciliation process. Some of the most useful features of the Napier eMedRec module are

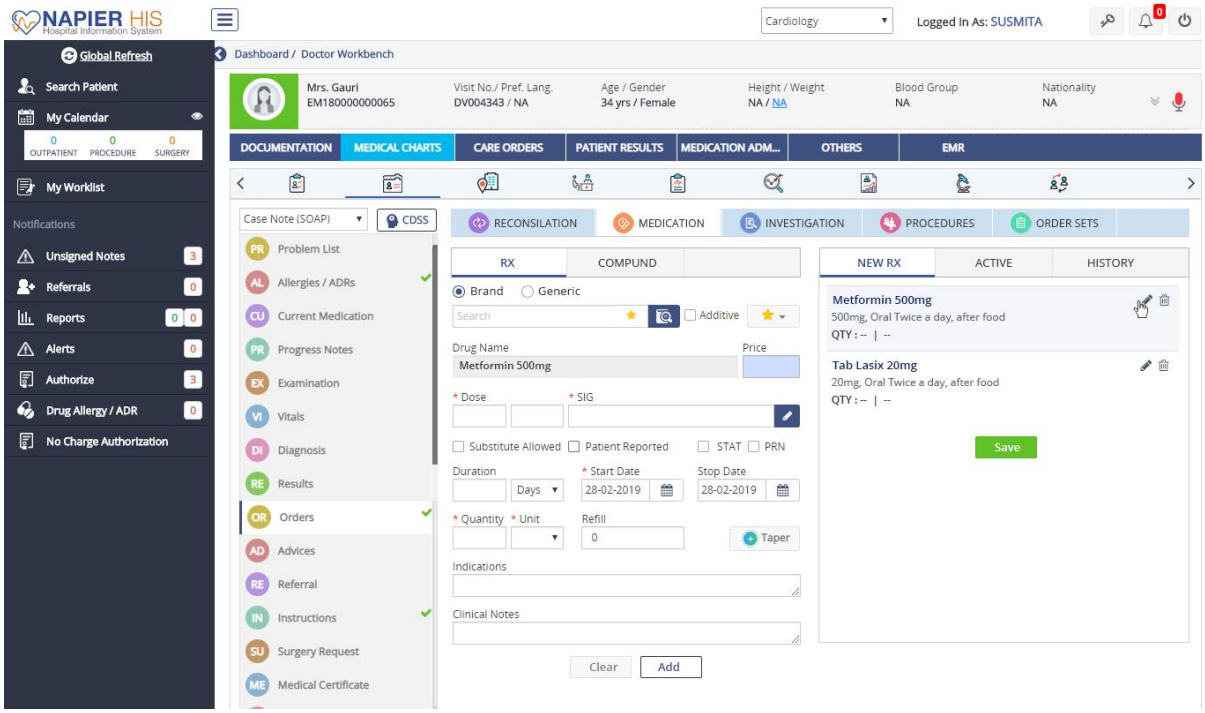
- User friendly, simple and standardised screen to document the best possible medication history (BPMH)
- Distinct screens and functionalities to support reconciliation in different care settings, ambulatory, admission, transfer and discharge, and converting inpatient orders to prescription.
- Display of home medication list and active medication list side by side to facilitate comparison and easily identify discrepancies.
- Sorting and flagging to easily identify discrepancies that require clinical decision
- Availability of all reconciliation actions (e.g., continue, discontinue, hold, or change) on the same window.

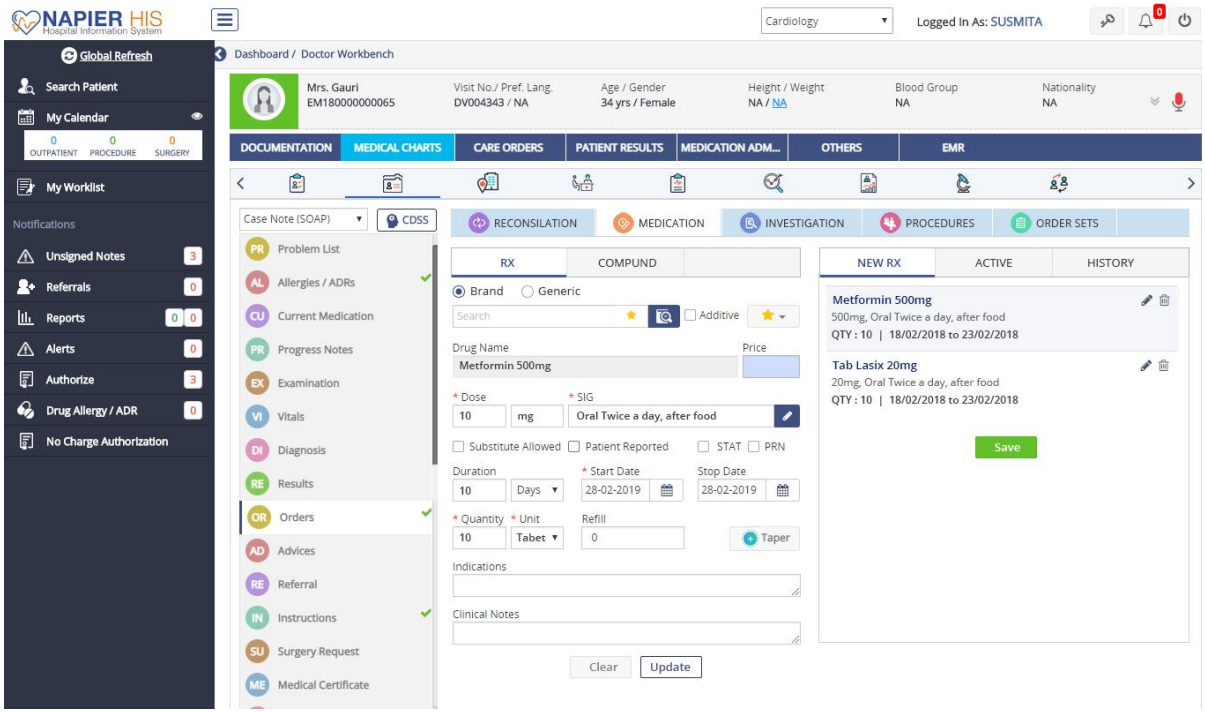
- Integration of eMedRec with CPOE so that new medications can be easily prescribed from the same window.
- Soft stops or reminders generated after a specified amount of time has elapsed to remind users to complete certain actions, for example, record a home medication history within a few hours of admission.
- Hard stops to prevent users from moving on before eMedRec steps are complete, for example a patient cannot be discharged until a discharge Med rec is completed.
- Filters for sorting medications by therapeutic class, most recent date prescribed, ordering physician, discontinued medications, etc.
- CDS in the form of therapeutic alternatives suggestion, drug allergy and interaction checking, dose calculators etc.
- The use of approved abbreviations and medication naming strategies and other safety strategies such as Tallman lettering.
- Ability to print a final medication list in patient-friendly language that provides a clear summary of changes made (stop, change and new) as well as a complete medication list with the indications of each medication and SIG details.
- Ability to add standardized medication educational materials for high-alert medications (e.g. anticoagulants, insulin etc.)
- Ability to transmit this information electronically to post-discharge providers.

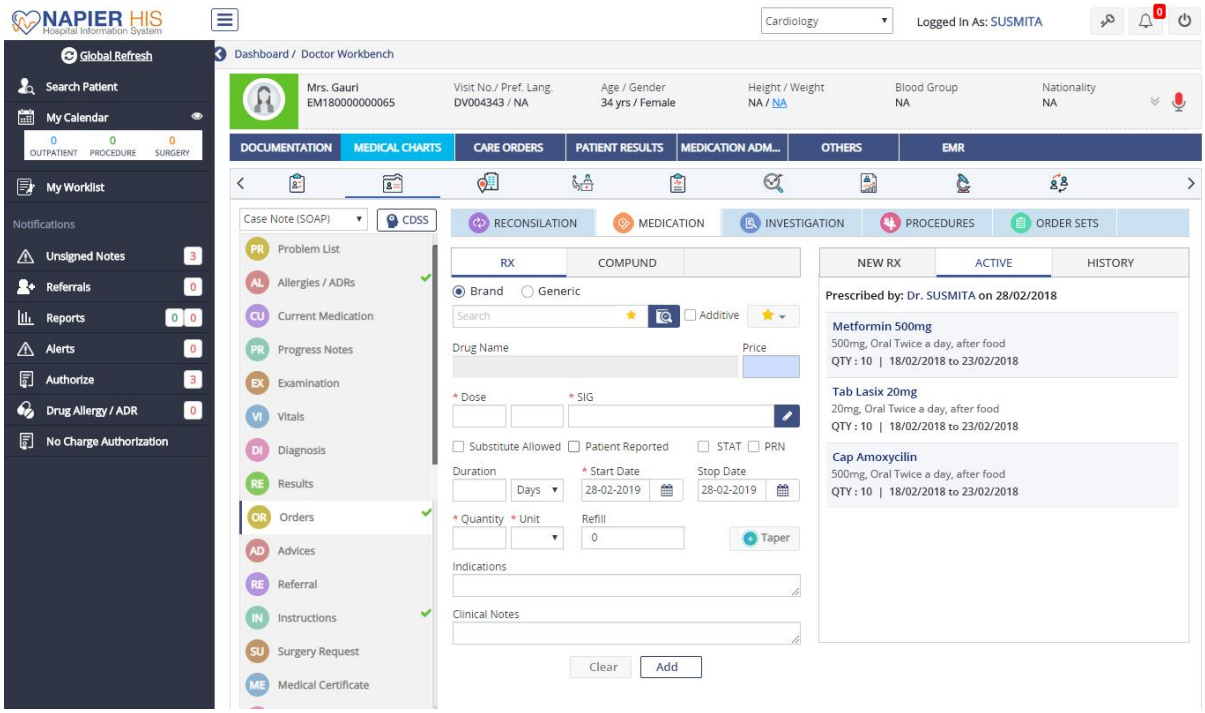
Conclusion

Medication Reconciliation is a complex process that is challenging to implement reliably across all interfaces of care without the support of technology. The Napier eMedRec design principles are aligned with patient safety and usability and aim to reduce cognitive burden of clinicians, improve compliance with the medication reconciliation process and create a more efficient system contributing to improved quality of care and patient safety.









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