Medication Reconciliation is Patient Safety and Quality: A Quality Improvement Initiative to Optimize Medication Therapy at Alwajba PHCC

Abstract:

As per PHCC policy, medication reconciliation is mandatory to provide safe practice and comprehensive patient care. It is noted that the rate of medication reconciliation done in Alwajba HC is not meeting the target for the PHCC which may affect the patient safety. Based on the comprehensive assessment of medication reconciliation practices at Alwajba Health Center, a multi-faceted intervention strategy was devised. The interventions were meticulously designed to address the identified knowledge gaps and system-related challenges. The effective improvement of medication reconciliation procedures has a big impact on patient safety and overall healthcare quality. Improved patient outcomes result from lowering the likelihood of adverse drug events and guaranteeing correct treatment regimens.

Keywords: PHCC policy, medication reconciliation, healthcare quality, chronic illnesses

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Introduction:

Medication reconciliation is the process of systematic and comprehensive review of all the medications a patient is taking to ensure that any medications being added, changed, or discontinued are carefully evaluated {1}.

Medication reconciliation (also known as “MedRec”) {2}is a patient safety intervention that was introduced to improve communication about patients’ medication information as they transition through the healthcare system. It

is targeted at both the patient and the patient's healthcare providers and is designed to help prevent adverse drug events.

Medication reconciliation is an essential part of patient safety in all healthcare settings. It is the methodical process of comparing a patient's past medication history to their present prescriptions. Although it is frequently stressed in hospital and post-discharge care, its importance in primary care cannot be overstated [5-7].

Primary care is the cornerstone of healthcare delivery, offering families and individuals continuous, all-encompassing care. In this context, patients frequently manage several chronic illnesses that call for intricate drug schedules. The dynamic nature of health disorders and the regular release of new pharmaceuticals increases the likelihood of medication mistakes, duplications, omissions, or interactions [8,9].
In primary care, effective medication reconciliation is essential for several reasons. Firstly, it aids in the prevention of adverse drug events (ADEs), which have the potential to significantly raise morbidity, mortality, and healthcare expenses. Secondly, By making sure that patients comprehend their drugs and the rationale behind taking them, it also improves patient adherence [10-12]. Thirdly, by spotting chances to streamline regimens and reduce polypharmacy, it maximizes pharmaceutical therapy. Medication reconciliation {3} in primary care ultimately results in better patient outcomes, higher-quality care, and lower healthcare costs.

As per PHCC policy, medication reconciliation is mandatory to provide safe practice and comprehensive patient care.

Physicians may face some challenges to complete medication reconciliation including unawareness of the process, lack of time or forget to complete it. failures in communication about patient 's medications can result in harm to patient, can unnecessarily burden the healthcare system, and can affect society at large.{4}

It is noted that the rate of medication reconciliation done in Alwajba HC is not meeting the target for the PHCC which may affect the patient safety.

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Method:

Aim of the project: Improve the medication reconciliation done by the physicians in Alwajba Health Center from 68% to 87% by end of April 2024.
Outcome measures: Percentage of completed medication reconciliation by physicians in Al Wajba health center.

Process measures: Number of training sessions for Medication Reconciliations process and number of reminders.

Balance measures: Physician satisfaction.

We started our project by collecting data from HIM (Health Information Management) department regarding the percentage of medication reconciliation in Alwajba health center, then we started our project with a physician survey for assessment of the knowledge and challenges encountered by the physicians in doing the process of medication reconciliation for every patient every visit.
Then we stated our driver diagram as follow:

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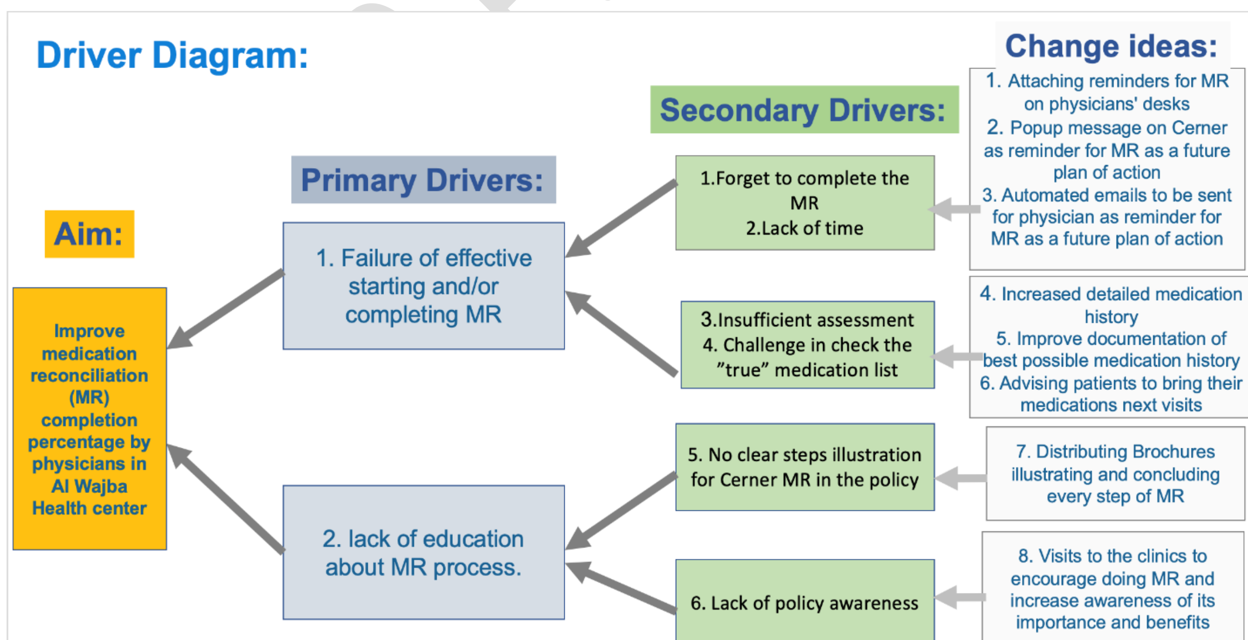
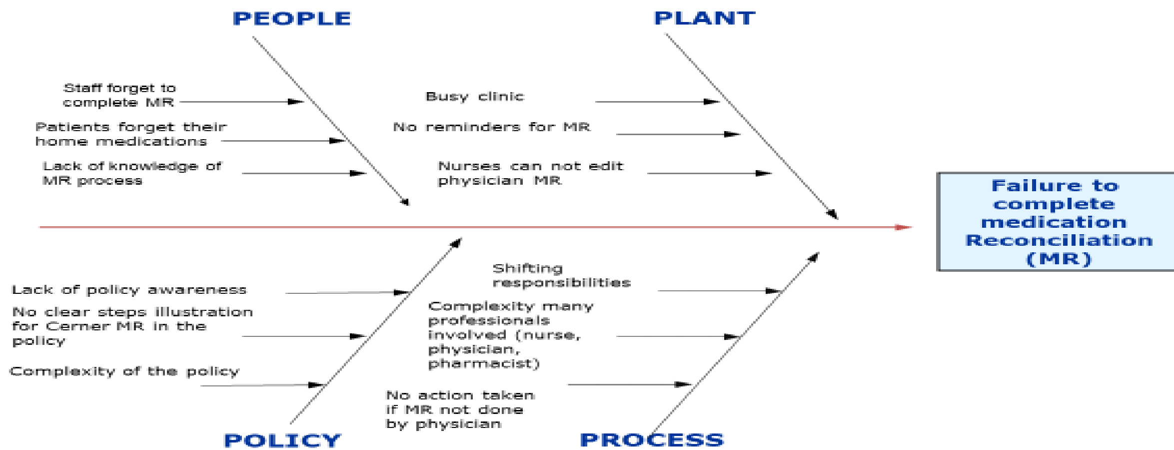
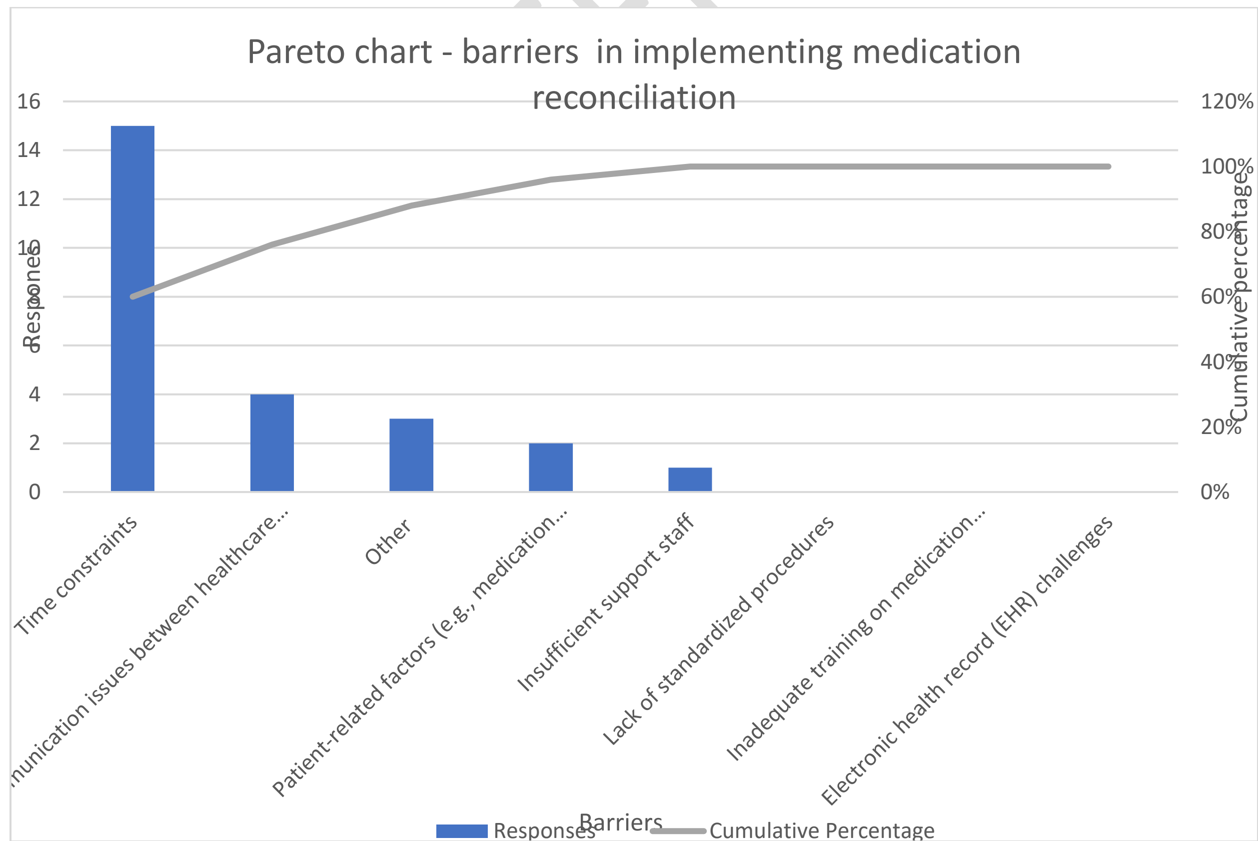


Then we stated cause effect diagram as following:



Our pareto chart after the physician survey showed:



Based on the comprehensive assessment of medication reconciliation practices at Alwajba Health Center, a multi-faceted intervention strategy was devised. The interventions were meticulously designed to address the identified knowledge gaps and system-related challenges.

- Educational Initiatives: To enhance physician knowledge and understanding of medication reconciliation, a series of face-to-face educational sessions were conducted. These sessions covered the importance of medication reconciliation, the step-by-step process, and potential consequences of errors. Additionally, informative brochures and policy guidelines were distributed to reinforce key concepts.
- Point-of-Care Reminders: To create consistent awareness among healthcare providers, prominent reminder cards were strategically placed in all clinics. These cards served as visual cues to prompt medication reconciliation for every patient visit.
- Digital Engagement: Leveraging technology, daily WhatsApp reminders were sent to physicians as a timely prompt to prioritize medication reconciliation. Furthermore, an instructional video demonstrating the medication reconciliation process within the Cerner electronic health record system was developed and disseminated.

By combining these diverse interventions, the project aimed to foster a culture of medication reconciliation, improve physician compliance, and ultimately enhance patient safety.

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Medication Reconciliation is a Patient Safety

Improvement of medication reconciliation rate done by physicians in Alwajba Health Center for all patients from 67% to average 87% by End April 2024.

Data collection will be by auditing daily and weekly extracted HIM report regarding the rate of medications reconciliations.

Prediction: improvement after applying our change ideas.

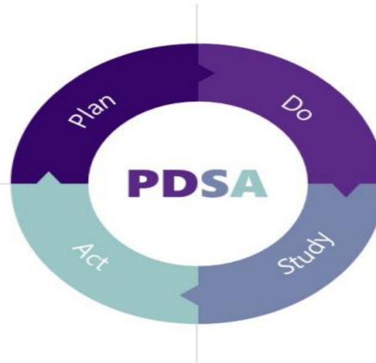
1-Distributing reminder cards and place them on each physician's computer.

2- Making brochure with steps of medication reconciliation process and distributing policy of medication reconciliation.

3- face to face visits for the physicians to explain the steps of the medication reconciliation and address their concerns.

4- Daily reminders on the what's app group for the physicians to do medication reconcillation.

5-Making and sharing video showing steps of medication reconcillation on cerner.



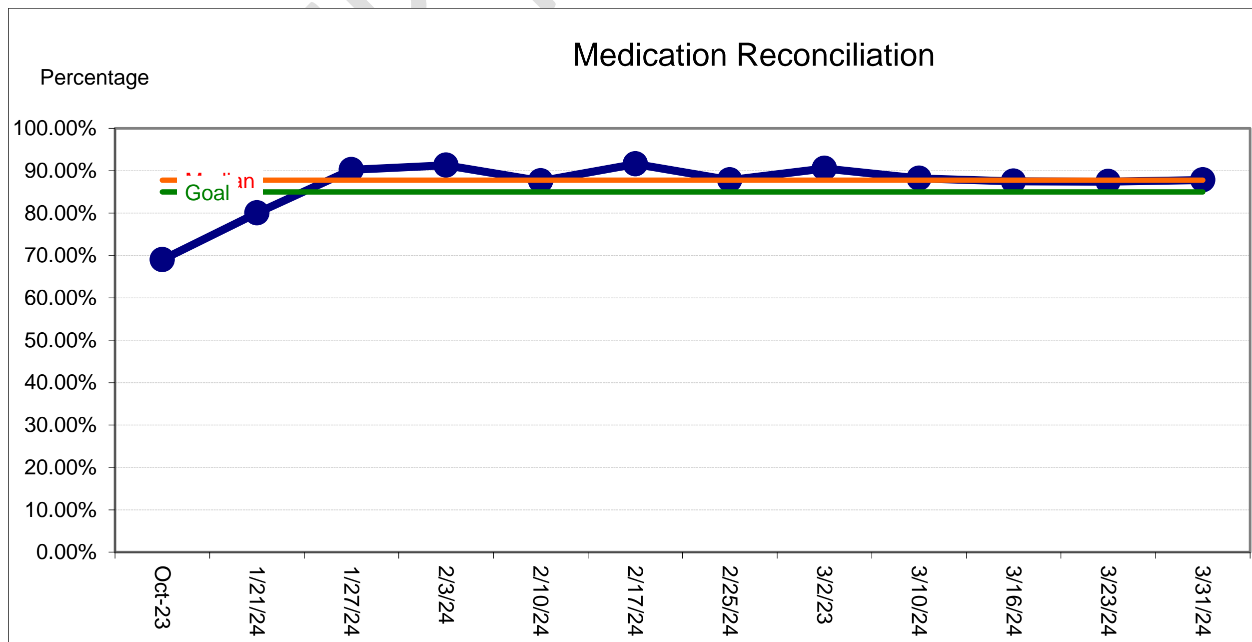
Keeping the auditing with weekly reporting and sharing the results with the physicians weekly

comparing the results of the medication reconciliation rate statistics extracted from the HIM and sharing the results with the physicians and discussing methods of improvement.

We initiated 5 PDSA cycles with our proposed interventions and started tracing the results of the medication reconciliation rate statistics extracted daily and weekly from the HIM and sharing the results with the physicians and discussing methods of improvement.

Results:

Improving medication reconciliation from 68% to 87.7% in Alwajba HC.
Within time range from January 2024 till April 2024.



Vertical Axis Label	Percentage
Graph Label	Medication Reconciliation

Date / Observation	Value	Median	Goal	End Median
Oct-23	69.00%	0.87773676	85%	
21/01/2024	79.99%	0.87773676	0.85	
27/01/2024	90.21%	0.87773676	0.85	
03/02/2024	91.30%	0.87773676	0.85	
10/02/2024	87.58%	0.87773676	0.85	
17/02/2024	91.58%	0.87773676	0.85	
25/02/2024	87.77%	0.87773676	0.85	
02/03/2023	90.52%	0.87773676	0.85	
10/03/2024	88.21%	0.87773676	0.85	
16/03/2024	87.52%	0.87773676	0.85	
23/03/2024	87.41%	0.87773676	0.85	
31/03/2024	87.78%	0.87773676	0.85	

Discussion:

Medication reconciliation procedures at Alwajba Health Center have significantly improved as a consequence of the deployment of comprehensive interventions, which also included digital engagement tactics, point-of-care reminders, and training programs. After the intervention period, the medication reconciliation rate rose from 68% to 87.7%. This significant improvement shows how well the combined strategy addressed the early knowledge gaps and system-related issues.

The training sessions were crucial in equipping doctors with the know-how and abilities needed to perform precise medication reconciliation. Their comprehension of the procedure was further cemented by the dissemination of important concepts via pamphlets and policy guidelines. Moreover, the incorporation of point-of-care reminders functioned as uniform cues, reducing the possibility of unintentional errors.

Digital platforms such as instructional videos and WhatsApp reminders were used to show how technology may be used to improve healthcare procedures. These platforms made resources easily available to doctors and promoted the timely sharing of knowledge.

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Digital platforms such as instructional videos and WhatsApp reminders were used to show how technology may be used to improve healthcare procedures. These platforms made resources easily available to doctors and promoted the timely sharing of knowledge.

The effective improvement of medication reconciliation procedures has a big impact on patient safety and overall healthcare quality. Improved patient outcomes result from lowering the likelihood of adverse drug events and guaranteeing correct treatment regimens.

The initiative also emphasizes the significance of a thorough strategy for medication reconciliation process optimization that takes into account system-related variables as well as physician knowledge.

Even if the treatments that were put into place had encouraging results, it is important to recognize the study's limitations. Like for sample, short duration of the project (less than 4 months) , or small scale of application on only one health center . Future studies could examine the long-term sustainability of the interventions, the cost-effectiveness of the strategies put in place, and the possibility of integrating electronic health records to automate the medication reconciliation process in order to further strengthen the impact of medication reconciliation.
Several recommendations are made for additional measures to maintain the benefits made and improve drug reconciliation procedures even more. Weekly reminders to doctors will keep the momentum going and emphasize the significance of medication reconciliation. A timely reminder could be provided by working with the IT department to integrate pop-up messages into the Cerner system prior to the end of patient sessions. Automated emails can also be used to handle situations in which

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medication reconciliation is unintentionally overlooked.

In order to address the ongoing problem of doctors' time constraints, it is imperative that leadership at the PHCC be involved in discussions about expanding patient appointment times. Without sacrificing patient care, this modification can give doctors enough time to perform careful medication reconciliation.

Furthermore, it's critical to keep lines of communication open with doctors by implementing regular feedback mechanisms in order to spot new issues and adjust the drug reconciliation procedure appropriately.

By putting these tactics into practice and encouraging teamwork, Alwajba Health Center can maintain its standing as a pioneer in patient care and pharmaceutical safety.

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Conclusion:

The quality improvement project on Medication Reconciliation at Alwajba Health Center demonstrated success. Through strategic interventions including reminders, education sessions, surveys, and multimedia aids, reconciliation completion rates improved significantly. These efforts culminated in achieving the target goal of 87% reconciliation by April 2024, enhancing patient safety and quality of care.
The results of this study highlight how well a multifaceted strategy works to enhance drug reconciliation procedures in a medical context. The implementation of practical interventions and the resolution of physician knowledge gaps resulted in a notable rise in medication reconciliation compliance rates. The significance of medication reconciliation as a foundational element of patient safety is underscored by these findings. In

order to guarantee continuous advancements in patient care, it is imperative that these initiatives be improved upon and maintained.

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