



Research Article

Improving Admission Medication Reconciliation through Ownership and Teamwork

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Abstract

Sheikh Khalifa Medical City (SKMC) is the main tertiary hospital in the Emirate of Abu Dhabi in the United Arab Emirates with 560 bed capacity and a high occupancy rate. SKMC senior management has made a commitment to make quality and patient safety a top priority. Medication errors is one of the major causes of morbidity and mortality in hospitalized patients. Medication reconciliation has been shown to significantly reduce medication errors resulting in better clinical outcomes.

The medication reconciliation electronic form is a computerized clinical decision support tool that improve medication reconciliation compliance on transition of care at admission, transfer and discharge of patients. Medication reconciliation has been identified as a critical patient safety measure and admission medication reconciliation regarded as a Key Performance Indicator (KPI).

In a move towards safer practices our governing body Abu Dhabi Health Services SEHA has raised the admission medication reconciliation compliance KPI target from 85% to 90% for all admitted patients. Our average compliance rate was 80% and achieving this new target was a challenge. The purpose of this publication is to show the quality improvement interventions implemented to enhance compliance with admission medication reconciliation and the outcomes of those interventions.

We chose to conduct the study in General Medicine as it is the busiest department in the hospital with an average of 390 patients admitted per month during the study period. The study period was from January till September 2017 and a total of 3500 admitted patients were evaluated. Our aim was to improve admission medication reconciliation compliance by using the electronic form in order to ensure patient safety and reduce preventable harm from medication errors. Through ownership and teamwork, the General Medicine admission medication reconciliation compliance improved from 83% in May 2017 to above 95% and this improvement was sustained over the last 4 months of the study period June through September 2017.

Problem

Medication errors are a major cause of morbidity and mortality in hospitalized patients. An effective strategy for preventing medication errors is by implementing medication reconciliation during patient transition of care at admission, transfer and discharge of patients. Admission medication reconciliation is a critical patient safety measure and a key performance indicator identified by SKMC leadership as a high priority area.

Our governing body SEHA has raised the admission medication reconciliation compliance KPI target from 85 to 90% for all admitted patients. Our average compliance rate was 80%

and achieving this new target was a challenge. General Medicine admission medication reconciliation improvement taskforce was formed and lead this quality improvement project. The focus was to target physician ownership and accountability as a means to improve compliance.

Background

Medication reconciliation is the process of identifying the most accurate list of all medications a patient is taking including name, dosage, frequency and route and using this list to provide correct medications to patients anywhere within the health care system. It involves comparing the patient's current medication

list against the physician's admission, transfer or discharge orders [1-3].

The electronic medication reconciliation form, a computerized clinical decision support tool, is an important patient safety and quality measure that has been shown to have a major impact on improving compliance with medication reconciliation. This resulted in better clinical outcomes by reducing preventable harm from medication errors [4-6].

The Joint Commission International (JCI) has identified medication reconciliation as a critical patient safety measure and mandates all health care facilities to implement medication reconciliation. SKMC policy mandates that admission medication reconciliation is completed for all admitted patients.

Baseline

The admission medication reconciliation key performance indicator compliance target set by our governing body SEHA is 90%. The average General Medicine admission medication reconciliation compliance rate pre-implementation in May 2017 was 83% (324 completed out of 390 patients admitted).

Design

Methodology used was prospective study of admission medication reconciliation compliance in admitted General Medicine patients. The information was extracted from the electronic medical record by using a specific segmented electronic form that contained all required information including the patient name, medical record number, location and green tick indicating whether or not the medication reconciliation was completed. The admitting physician was extracted from the History and Physical (H&P) document.

The average General Medicine admission medication reconciliation compliance pre-implementation was 80%. Achieving our governing body newly set target of 90% was a challenge. General Medicine taskforce was formed and through a number of interventions targeting physician ownership, accountability and teamwork was able to improve admission medication reconciliation compliance exceeding the new KPI target.

Strategy

We chose to conduct the study in General Medicine as it is the busiest department in the hospital with an average of 390 patients admitted per month during the study period. Our goal was to improve admission medication reconciliation compliance aiming to achieve the new KPI target set by our governing body SEHA which is 90%.

The study period was from January till September 2017 and a total of 3500 patients were evaluated.

The key interventions tested to improve admission medication reconciliation compliance are list below:

- Sharing monthly admission medication reconciliation compliance data with the General Medicine team in order to raise awareness and address concerns.
- Educational sessions including hands on training on admission medication reconciliation were conducted for all newly hired physicians and noncompliant physicians.
- The Division of General Medicine took ownership of its admission medication reconciliation KPI.
- Daily screening of all General Medicine admissions for admission medication reconciliation completion.
- Medicine Admission Workflow was developed with its 3 components (VTE risk assessment, Admission Medication Reconciliation, H&P) to remind the admitting physician to complete the admission medication reconciliation when admitting any General Medicine patient from the emergency department. (Figure 1)

Medicine Admission Workflow



Figure 1: Medicine Admission Workflow.

- H&P physician accountable for admission medication reconciliation completion at the time of admission.
- Patients with missed admission medication reconciliation were identified and a reminder was sent to the admitting physician to complete the admission medication reconciliation within 24 hours of admission.
- Team work - for those few cases accidentally missed and when the admitting physician is unavailable for Example post night call, the admission medication reconciliation was completed by the ward team.

Results

With the implemented performance improvement interventions, we were able to improve General Medicine admission medication reconciliation compliance from 83% in May 2017 to above 95% and this improvement was sustained over the last 4 months of the study period June through September 2017. (Figure 2)

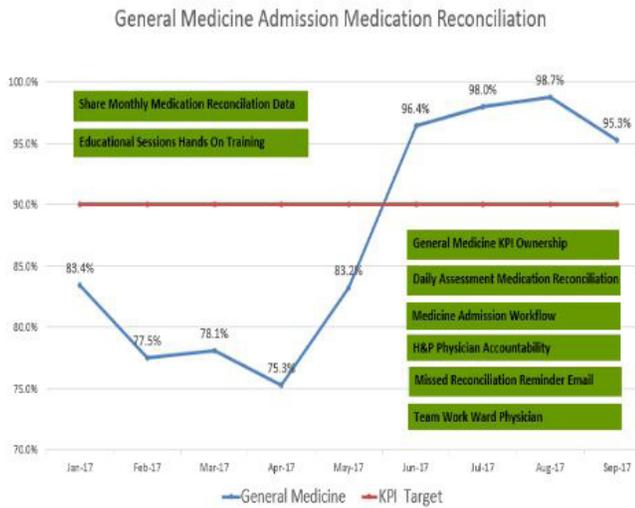


Figure 2: General Medicine Admission Medication Reconciliation Compliance.

Lessons and Limitations

Senior management support and empowerment was one of the critical success factors. However, it took time to get buy-in and engagement from front line staff due to different background education and training. In addition, we addressed the misconception that the electronic medication reconciliation form is complex and time consuming when in fact it doesn't take much time to complete. This was clearly demonstrated in our educational sessions.

The sustainability of this project will need to be enforced by engaging the frontline staff and maintaining leadership support.

Conclusion

Medication reconciliation electronic tools has been shown to improve admission medication reconciliation resulting in better clinical outcomes by reducing medication errors.

The General Medicine admission medication reconciliation quality improvement taskforce team managed to implement quality improvement interventions and change management strategies that resulted in significant improvement in the admission medication reconciliation compliance. We were able to achieve and exceed our governing body newly set target of 90% for the first time and this improvement was sustained over the last 4 months of the study

period. The outcomes of the project and lessons learned were shared throughout the organization. Implemented interventions are generalizable and can be replicated in other wards and organizations. This improvement will enhance patient safety and reduce preventable harm from medication errors. Support and commitment from senior leadership was critical to the success of this project.

This performance improvement project shows that quality improvement teams using information technology must understand the clinical context. They must engage the front line staff, giving them ownership and accountability to their own KPI, in order to overcome resistance to change and implement sustainable systems.

This project proves that ownership and team work can result in remarkable outcomes in terms of achieving unattainable KPI targets.

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Declaration of Interests

None of the authors have any declared conflict of interest.

Ethical Approval

This was a performance improvement project hence it is exempt from ethical approval requirement.

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