

# Improved Medication Reconciliation Accuracy in the ER through Pharmacy Assistance

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## Purpose

The purpose of this evidence based practice quality improvement project was to evaluate whether utilizing a designated pharmacist in the emergency department for medication reconciliation improves medication reconciliation and thus reduces potential for medication errors, when compared to medication reconciliation completed by the emergency department nurse.

## Background

- Accurate medication reconciliation (MR) at time of admission is known to reduce the potential for medication errors.
- The Sentinel Event Report, JACHO (2006) discussed the importance of MR in an effort to prevent medication errors in the hospital settings.
- The American Society of Health-System Pharmacists (ASHP) believes that an effective process for MR reduces medication errors (ASHP, 2015).
- Currently, emergency department staff has to rely on patients and patients' families to provide this vital information, which can easily lead to incomplete MRs, thus resulting in possible adverse drug events or delays in treatments (Hummel, Evans & Lee, 2010).
- Pharmacist assistance has been shown to improve MR accuracy from 32.3% to 92.4% compared to nurses completing them (Wickline, 2015).
- A study by Aldrige, Park, Bounthavong, & Morreale (2009) demonstrated that MR completed by a pharmacist in the emergency department resulted in an annual cost savings of \$1.7 million.

## Methods

The project used a prospective comparative design of MR completed by the nurses, compared to a designated pharmacist in the Emergency Department at Bayfront Medical Center, St. Petersburg, FL.

Over 4 week, 50 MRs completed by nurses and a pharmacist were reviewed for a total of 100.

Inclusion criteria: Patients admitted to the hospital via the emergency room, who had a minimum of two home medications.

The project was approved by the IRB at the University of South Florida as well as Bayfront Medical Center as exempt from requiring informed consent.

The data was collected from patients reports without any identifiable health information.

## Results

**Accuracy of Completion of MR:** Nurses completed 12% (95% CI=3-21%) of all MRs reviewed with a 66.7% accuracy, while the pharmacist completed 98% (95% CI =94-100) with 100% accuracy of medication name, dose and frequency.

The mean difference in MR completion compared between nurses vs pharmacist was statistically significant in a t-test ( $r=.12$ , 95% CI-0.3-.21,  $p=0.013$ ).

**Missed Medication due to MR not Completed:** An average of 8 missed medications were observed due to lack of completion of MR by nurses (mean  $7.98 \pm 6.5$ ).

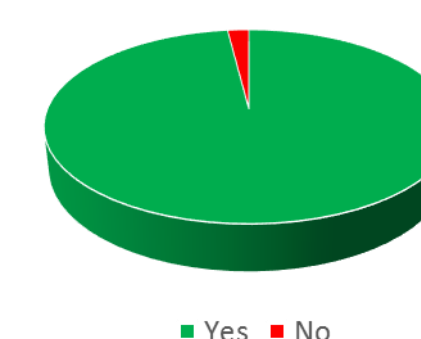
**Completion Based on having Previous MR:** Only 52% had a previous MR in the chart. The accuracy of MR if a previous MR was available was 98%. However, having a previous MR in a chart had no significant association with accuracy of completion by nurses and or pharmacist ( $r=.60$ ;  $p=0.083$ ).

## Results Continued

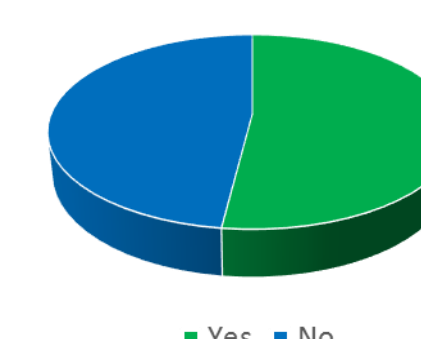
RN- MR Completed



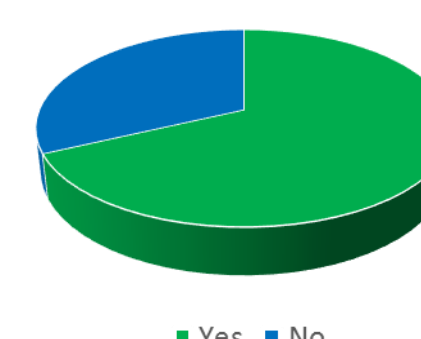
Pharmacist- MR Completed



RN- Previous Med List



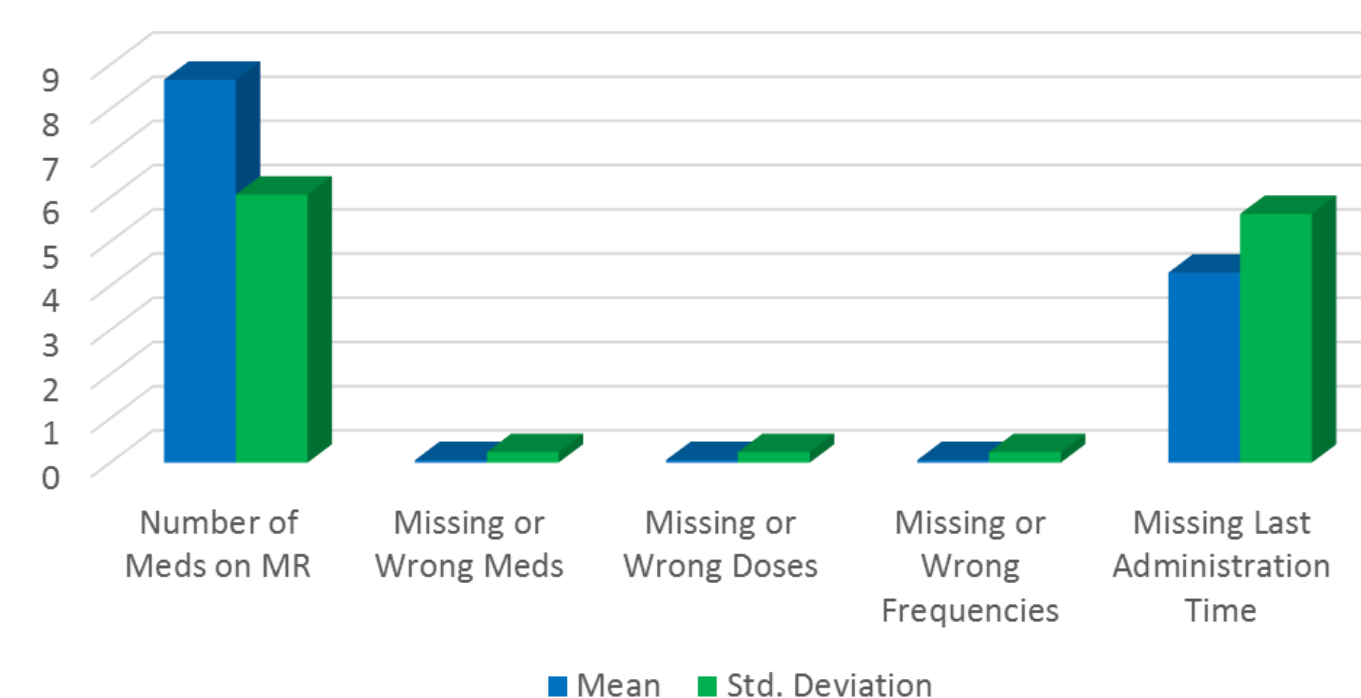
Pharm- Previous Med List



RN Data



Pharmacist Data



## Discussion

- The results of the project demonstrated that the MR completion and accuracy of completion by the pharmacist was higher than MR completion and accuracy of completion by the RNs in the emergency department, thus supporting the current evidence.
- Not completing the MR resulted in an average of 8 missed medications.

## Clinical Implication

- The result was implemented at Bayfront Medical Center by utilizing 2 full-time pharmacists for improved MR completion to reduce potential errors and harm to patients.

## Limitations

- The MRs of several RNs were reviewed without the RNs being aware of the project.
- Only one pharmacist was observed and she had knowledge of the on-going data collection.

## Acknowledgements

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