

Improving Accuracy of Home Medication Lists at Admission

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Introduction

- Having an accurate home medication list at hospitalization increases patient safety, reduces waste associated with changing orders after ordering, and improves efficiency of discharge ordering.
- Children's Wisconsin (CW) is a 306 bed, quaternary pediatric hospital with an average annual volume of 22,000 patients.
- Since the initiation of the National Patient Safety Goal for medication reconciliation, CW nurses obtained home medication information from the patient/family and updated the list in the electronic health record (EHR).
- Providers reviewed the list, obtained additional information and ordered medications for the hospital stay.
- Documentation showed that this process was completed on most patients, but the accuracy of the medications lists was less than 70%.

Aim

Increase the percent of complete medication entries on the home medication list in the EHR at the time of deciding to order/not order medications from a median of 69% to 90% by December 31, 2019.

Definitions/Measures

- A complete medication entry is defined as a medication that the patient is expected to be taking and includes all of the following: Medication Name, Formulation, Dose, Route, Frequency, Scheduled dosing times and Date/time of last dose.
- To measure the percent of complete med entries, independent pharmacists performed audits of the home med list through discussions with the patient/family, review of the EHR and discussions with the clinical team. The numerator is the number of complete med entries. The denominator is incomplete med entries + med entries that should not be on the list + meds that should be on the list but are not.
- Additional measures included the percent of home medication orders placed that needed to be changed by pharmacy and the percent of patients whose home medication lists were updated by pharmacy.

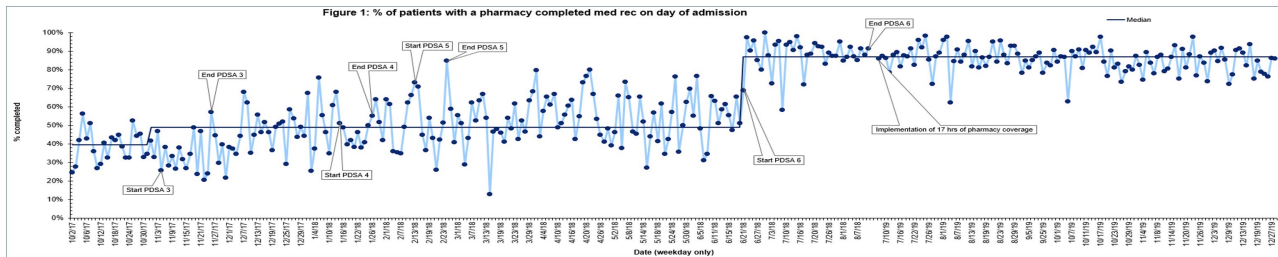
Methods

- A current state assessment documented the admission process for both nurses and providers.
- A group of providers, nurses, pharmacists and support staff analyzed this process, designed a future state, and then tested the future state process through iterative PDSA cycles.
- The table below summarizes the cycles completed.

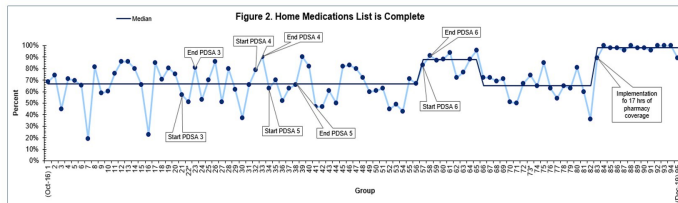
PDSA	Description	Duration
1	RN obtains home med list on paper. Provider enters/updates EHR.	4 weeks
2	Provider obtains home med list and enters/updates EHR. RN reviews list with patient/family to confirm.	4 weeks
3	Dedicated pharmacist updates home med list for all admissions to one unit.	2 weeks
4	Emergency Department (ED) pharmacist updates home med list for ED admissions. Floor pharmacists do med list updating for new admissions during day.	2 weeks
5	All floor pharmacists update home med lists for new admissions during the day. Dedicated pharmacist helps support.	2 weeks
6	3 dedicated pharmacy personnel provide 17 hours of home med list updating coverage weekdays.	8 weeks

Results

- During the first two PDSA cycles, intense efforts were required on the part of nursing leadership, provider support and pharmacy to achieve minimal changes in the outcome measure (Table 1).
- Additional cycles of improvement evaluated the introduction of pharmacy staff to the admission process. During these cycles, our most innovative test of change was staffing a pharmacist in the day surgery area to update the home medication list on patients with a planned post-operative hospitalization. This staffing model allowed for all surgical admission home med lists to be updated prior to the patient reaching the recovery area.
- Through the successive PDSA cycles, the most efficient and effective process that achieved the best outcome included having pharmacy staff update the home med list in the emergency department prior to admission, in the day surgery area, or shortly after reaching the unit. This process tested through PDSA cycle #6 achieved our goal of >90% of home medication entries being complete while reaching a median of 90% of hospitalized patients (Figure 1). We are now in the sustainability stage of our project. Following implementation of the proven workflow, we have surpassed the goal and achieved 98% complete and accurate home medication lists.



PDSA	% of complete home med entries	% of home med orders requiring changes
0	69%	17.6%
1	58%	3.5%
2	63%	13.5%
3	93%	1%
4	90%	1.7%
5	85%	3%
6	92%	0.2%



Lessons Learned

- Pharmacy involvement improves the completeness of home medication lists in the EHR and sustained results.
- Initiating medication reconciliation prior to admission (i.e. in the emergency department or day surgery) results in the greatest efficiency and effectiveness.
- Accurate home medication list at the time of ordering/not ordering medications improved patient safety, eliminated waste in the medication use system and significantly improved the discharge medication reconciliation process and the after visit summary.

Acknowledgements

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Kids deserve the best.