Implementation of a Medication Reconciliation Improvement Bundle for Acute Care Inpatients

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**Background**

Accurate medication reconciliation is fundamental in assessing and adjusting medication regimens during transitions of care. Reconciliation discrepancies and incomplete medication lists can lead to medication errors and patient harm.

University of Utah Hospitals and Clinics (UUHC) is 1 of 18 hospitals participating in the Multi-Center Medication Reconciliation Quality Improvement Study (MARQUIS) 2 trial. The purpose of this quality improvement project is to improve admission medication reconciliation through pharmacy services interventions.

**Objectives**

- Determine the difference in medication order discrepancies within the first 8 hours of admission
- Evaluate the change in the average time to PAML documentation by pharmacy staff
- Assess the change in hospital staff satisfaction with the pharmacy medication reconciliation process

**Sample Survey Questions**

- How satisfied are you with the quality of home medication lists completed for patients being admitted to an acute care unit before admission orders placed?
- How satisfied are you with the quality of home medication lists completed for patients during the first 24 hours on the acute care unit?
- What impact would a pharmacy staff member collecting home medication lists in the emergency department in the evenings have on medication order errors?
- What impact would a pharmacy staff member collecting home medication lists on acute care units in the evenings have on medication order errors?

**Discrepancies in Admission Orders**

<table>
<thead>
<tr>
<th></th>
<th>September 2016 (n = 19)</th>
<th>March 2017 (n = 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total errors</td>
<td>49/142 (35%)*</td>
<td>27/144 (19%)*</td>
</tr>
<tr>
<td>Omissions</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>Dose errors</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Frequency errors</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Substitution errors</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Route error</td>
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<tr>
<td>Formulation error</td>
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<td>1</td>
</tr>
<tr>
<td>Additional med</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total errors per patient</td>
<td>2.58</td>
<td>1.59</td>
</tr>
</tbody>
</table>

*P value < 0.05

**Discrepancies in Provider-entered Med. List**

<table>
<thead>
<tr>
<th></th>
<th>September 2016 (n = 19)</th>
<th>March 2017 (n = 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total errors</td>
<td>91/142 (64%)*</td>
<td>64/144 (44%)*</td>
</tr>
<tr>
<td>Omissions</td>
<td>33</td>
<td>22</td>
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<tr>
<td>Dose errors</td>
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<td>14</td>
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<tr>
<td>Frequency errors</td>
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<tr>
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<td>0</td>
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<tr>
<td>Formulation error</td>
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<td>1</td>
</tr>
<tr>
<td>Additional med</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>Total errors per patient</td>
<td>4.79</td>
<td>3.76</td>
</tr>
</tbody>
</table>

*P value < 0.01

**Conclusions**

- Standardizing PAML collection and documentation contributed to reduced discrepancies
- Difficult to hire pharmacy technicians with shortage, more time needed to assess full impact of tech in ED
- Trend towards increased satisfaction

**References**


**Disclosures**

- All authors have no relevant conflicts of interest to report
- This study has been IRB approved

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**Project Timeline**

- Submit staff survey for IRB approval Sept. 2016
- Staff evening pharmacy interns in ED Oct.-Nov. 2016
- Disseminate first survey Nov. 2016
- Staff daytime pharmacy tech in ED Jan. 2017
- Collect post-intervention data Jan.-March 2017
- Disseminate second survey March 2017
- Analyze post-intervention data and results April 2017

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**Discrepancies in Admission Orders**

- Dose errors 26
- Omissions 33
- Frequency errors 27
- Route error 1
- Formulation error 3
- Additional med 22

**Discrepancies in Provider-entered Med. List**

- Total errors 91/142 (64%)
- Omissions 33
- Dose errors 26
- Frequency errors 27
- Route error 1
- Formulation error 3
- Additional med 22

**Overall**

- Total errors per patient 4.79
- *P value < 0.01