Safer Prescribing with Partnered Pharmacist Charting in the Acute Medical Setting

S Hitchen, V Sinclair, C McLennan, B Kim, C Huynh, S Tran, M Rawlins
Pharmacy Department, Fiona Stanley Hospital, Murdoch, Western Australia

Background

- Medication errors are commonly reported in hospitals, and lead to significant morbidity and mortality.  
- The Acute Medical Unit (AMU) at Fiona Stanley Hospital (FSH) is a 50 bed ward with a high turnover of complex medical patients.  
- Australian data suggests partnered pharmacist charting (Figure 1) reduces prescribing error rates. Significant errors were prevented for 1 in every 3 patients, making this an efficient intervention.  
- A partnered charting pharmacist (PCP) role was implemented in July 2017 on the FSH AMU.

Figure 1: Comparison of Partnered Charting Pharmacist Model and Standard Admission Process

Aims

- Investigate whether integrating the partnered charting pharmacist reduces prescribing error rates.  
- Define the nature of prescribing errors occurring in AMU.  
- Quantify the number of errors involving high risk medications.

Methodology

- 580 patients were prospectively assessed by AMU pharmacists over a 2 month period (May-June 2018) for prescribing errors.  
- The partnered charting arm (n=91) were reviewed by a PCP and doctor within 4 hours of admission to AMU. The remaining patients (n=489) were reviewed via the standard process (Figure 1).  
- Prescribing errors in the partnered charting arm were subsequently assessed by an independent clinical pharmacist, whereas prescribing errors in the control arm were identified and rectified by the usual clinical pharmacist on the ward.

Results

- Prescribing error rates per patient admission reduced from 50.6% (248/489) to 8.8% (9/91) (p<0.001, NNT 2.4) when patients were admitted via partnered pharmacist charting process versus the standard process.  
- 131 (20.2%) errors in the control arm involved high risk medications, compared with only 1 error (9.09%) in the partnered charting arm.  
- The most common error (8/10) in the partnered charting arm was incomplete prescription (missing a Dr signature). The most common error in the control arm was omission of patient regular medications (336/649).

Table 1: Comparison of Top 5 Prescription Errors between the Partnered Charting Pharmacist Model and Standard Admission Process

<table>
<thead>
<tr>
<th>Error Type</th>
<th>Partnered Charting</th>
<th>Standard Process</th>
<th>Error Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incomplete</td>
<td>8/91</td>
<td>10/958</td>
<td>8.8%</td>
</tr>
<tr>
<td>Incorrect dose</td>
<td>7/91</td>
<td>28/350</td>
<td>2.0%</td>
</tr>
<tr>
<td>Medication omitted</td>
<td>5/91</td>
<td>3/958</td>
<td>5.2%</td>
</tr>
<tr>
<td>Medication wrong</td>
<td>4/91</td>
<td>11/350</td>
<td>1.2%</td>
</tr>
<tr>
<td>Patient admitted</td>
<td>1/91</td>
<td>2/958</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Figure 2: Results

Table 2: Comparison of Top 5 Errors Involving High Risk Medications between the Partnered Charting Pharmacist Model and Standard Admission Process

<table>
<thead>
<tr>
<th>Error Type</th>
<th>Partnered Charting</th>
<th>Standard Process</th>
<th>Error Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narcotics &amp; sedatives</td>
<td>6/91</td>
<td>2/958</td>
<td>3.2%</td>
</tr>
<tr>
<td>Anticoagulants</td>
<td>2/91</td>
<td>1/958</td>
<td>0.6%</td>
</tr>
<tr>
<td>Sulfonylureas</td>
<td>1/91</td>
<td>0/958</td>
<td>0.3%</td>
</tr>
<tr>
<td>Insulin</td>
<td>2/91</td>
<td>3/958</td>
<td>1.2%</td>
</tr>
<tr>
<td>Glucose</td>
<td>0/91</td>
<td>0/958</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Future Directions

- The prescribing errors will be reviewed by an expert panel to assess for severity and risk of patient harm.  
- Errors involving high risk medications and assessed as high severity will be further assessed for evidence of patient harm.

Conclusion

Partnered pharmacist charting reduced prescription error rates per patient by 41.8% compared to standard admission process (RRR 0.83).

References


This project was approved as a QI project (GEKO #26656) and was considered exempt from requiring HREC approval.