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Types of Interventions Made by Student Pharmacists on a General Medicine Ward at a Veterans Affairs Medical Center

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Background

- Studies have shown improved patient care with the addition of clinical pharmacy services to general medicine wards:
  - Adverse drug events decreased by as much as 78%,\(^1\,2\)
  - Hospital length of stay decreased by an average of 3 days,\(^3\,4\)
  - Pharmacist counseling at discharge improved correct medication use rates by 30% and compliance by 54%,\(^5\,6\)
- Pharmacy students on Advanced Pharmacy Practice Experiences (APPEs) in clinical settings reduced costs through recognition of medication errors and adverse drug reactions.\(^7\)
- This study serves to add to existing literature by analyzing student pharmacist interventions in order to demonstrate the importance of implementing clinical pharmacy services into interdisciplinary teams within medical settings.

Objective

- To describe the distribution of intervention categories made by nine student pharmacists in Veterans on the general medicine floors at the Providence VA Medical Center (PVAMC) from May 2019 to March 2020.

Study Design

- Student pharmacists on the PVAMC general medicine floors were required to document and describe the clinical interventions they made while on their APPE rotation.
- This de-identified data was classified into one of 11 categories from the Pharmacists Achieve Results with Medications Demonstration (PHARMID) tool.
- Inclusion criteria: Veterans admitted to the PVAMC general medicine floors from May 2019 to March 2020, who received an intervention from a student pharmacist.

Results

<table>
<thead>
<tr>
<th>Intervention Categories</th>
<th>Number of Interventions vs. Intervention Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adjust (medication dose, frequency, duration, or dosage form)</td>
<td>400</td>
</tr>
<tr>
<td>2. Change to a different agent</td>
<td>300</td>
</tr>
<tr>
<td>3. Discontinue medication</td>
<td>200</td>
</tr>
<tr>
<td>4. Drug information</td>
<td>150</td>
</tr>
<tr>
<td>5. Identification (drug-drug interaction; drug-disease state interaction; drug allergy or adverse drug reaction)</td>
<td>120</td>
</tr>
<tr>
<td>6. Initiate medication</td>
<td>100</td>
</tr>
<tr>
<td>7. Medication education/counseling</td>
<td>80</td>
</tr>
<tr>
<td>8. Medication monitoring (no dosage change required or continue to monitor and assess)</td>
<td>60</td>
</tr>
<tr>
<td>9. Medication reconciliation (documented discrepancy)</td>
<td>40</td>
</tr>
<tr>
<td>10. Non-pharmacologic intervention (lifestyle/disease state education/counseling (verbal or written), referrals for additional care, or recommendation for improved adherence (i.e. pillbox))</td>
<td>20</td>
</tr>
<tr>
<td>11. Vaccination intervention</td>
<td>10</td>
</tr>
</tbody>
</table>

- 940 Interventions Made
- 3.3 Interventions Made Per Patient
- Medication reconciliation, initiate medication, and identification of discrepancies were the most common interventions made.
- 80% Acceptance Rate

Conclusion

- Adverse drug reactions (ADRs) impose a heavy burden within the healthcare system accounting for up to 35.5% of older adult visits to the emergency department, increasing hospital length of stay, and accumulating 30.1 billion dollars in costs per year.\(^8\)
- However, rounding pharmacists perform medication reconciliation and patient counseling, resulting in fewer adverse drug events, reduced hospital stays, improved compliance, and lower hospital readmission rates and costs due to the pharmacist's ability to recommend medications, modify dosages and strengths, and review patient information in real-time with the medical team.\(^9\,11\)
- Student pharmacists make high quality, evidence-based interventions, therefore, their participation on interdisciplinary teams allows for optimization of care among patients.
- This study supports existing literature by demonstrating the direct positive impact clinical pharmacy services have on patient care.\(^1\,11\)