ASSESSING INTERVENTIONS TO IMPROVE PATIENT CARE CONDUCTED BY PHARMACISTS AT AN OUTPATIENT RENAL TRANSPLANT CLINIC WITHIN A COLLABORATIVE PHARMACY PRACTICE AGREEMENT

Rachel Chlewski, PharmD, CSP1 I Keren Johnson, PharmD, CSP1 I Autumn Zuckerman, PharmD, BCPS, AAHIVP, CSP1 I Megan Peter, PhD2 I Anthony Langone, MD3

1Vanderbilt Transplant Pharmacy, 2Vanderbilt Specialty Pharmacy, 3Vanderbilt University Medical Center, Department of Medical Specialties

BACKGROUND

• Collaborative pharmacy practice agreements (CPPA) permit pharmacists to perform clinical services under a supervising physicians without direct intervention.
• The Vanderbilt Renal Transplant Clinic implemented a CPPA in March 2017.

METHODS

Study Design
Sample: Adult patients prescribed medication from the renal transplant clinic from 1/01/2019 to 6/30/2019
Data: Retrospective review of clinic notes in patient electronic medical records (EMR)
Objective: Evaluate interventions performed by pharmacists in a CPPA at a renal transplant clinic

Interventions
Medical record assessment: Evaluate patient-specific information to facilitate medication prescribing, adjustment, continuation, or coordination of care
Medication counseling: Educate patients in clinic or by phone on drug-specific information based on need
Resolving barriers to medication continuation: Identify and address potential issues that may impact medication persistence

RESULTS

Figure 1. Pharmacist Responsibilities

Medication changes*
• Taper and discontinue medications per protocols
• Renew and generate orders for non-controlled medications
• Medication counseling for post-transplant patients

Patient education
• Provide medication and dosing information to providers and nursing staff

Drug information resource
• Complete insurance prior authorization and appeals for medication approval
• Obtain financial assistance as needed
• Verify last clinic visit occurred within 12 months
• Verify CPPA referral on file

Treatment access
• Access patient electronic medical records (EMR)

Figure 2. Clinic Workflow

Post renal transplant patient discharged and followed by renal transplant clinic
Patient referred to pharmacist by nurse, physician, or pharmacy via phone, EMR message, or clinic visit
Pharmacist performs chart reviews to ensure appropriate medication and dose
Pharmacist generates renewal or new medication order
Pharmacist provides interventions during therapy as needed

Steps Performed in Chart Reviews for Orders
• Verify CPA referral on file
• Verify last clinic visit occurred within 12 months
• Review EMR for medication changes
• Review laboratory results
• Update medication list if appropriate

Figure 3. Types of Pharmacist Interventions

5% Patients’ orders audited by physician
3,852 Pharmacist interventions preformed
1,821 Chart reviews performed
1,233 Patients

11% Medical Record Assessment
70% Medication Counseling
19% Resolving Barriers to Medication Continuation

Table 1. Pharmacist Interventions by Category

<table>
<thead>
<tr>
<th>Subcategory</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination of care</td>
<td>1580</td>
<td>41%</td>
</tr>
<tr>
<td>Dose clarification</td>
<td>600</td>
<td>16%</td>
</tr>
<tr>
<td>Appropriateness of therapy</td>
<td>284</td>
<td>7%</td>
</tr>
<tr>
<td>Labs and medication monitoring</td>
<td>156</td>
<td>4%</td>
</tr>
<tr>
<td>Medication reconciliation</td>
<td>61</td>
<td>2%</td>
</tr>
<tr>
<td>Allergy review</td>
<td>10</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Disease related event or symptom</td>
<td>4</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Drug/administration information</td>
<td>635</td>
<td>16%</td>
</tr>
<tr>
<td>Side effect management</td>
<td>53</td>
<td>1%</td>
</tr>
<tr>
<td>Drug interaction</td>
<td>38</td>
<td>1%</td>
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<tr>
<td>Storage and stability</td>
<td>8</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intervention Category</th>
<th>n</th>
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<tbody>
<tr>
<td>Medical Record Assessment</td>
<td>(n=2,695)</td>
</tr>
<tr>
<td>Medication Counseling</td>
<td>(n=734)</td>
</tr>
<tr>
<td>Resolving Barriers to Medication Continuation</td>
<td>(n=423)</td>
</tr>
</tbody>
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CONCLUSIONS

• Description management by pharmacists prescribing under a CPPA is safe.
• Pharmacist interventions were common, emphasizing the vital role pharmacists can have on a post-transplant healthcare team.
• CPPAs are a prudent method of providing quality patient care, particularly in clinics with high patient volume and frequent medications changes such as transplant.

RECOMMENDATIONS FOR ESTABLISHING A CPPA

• Obtain liability insurance for pharmacists
• Seek legal review of agreement before initiating a CPPA
• Integrate a pharmacist in clinic before initiating a CPPA to build trust with providers
• Maintain open and constructive communication between physicians and pharmacists in a CPPA

VANDERBILT UNIVERSITY
MEDICAL CENTER

Email Keren Johnson for correspondence: keren.e.johnson@vumc.org