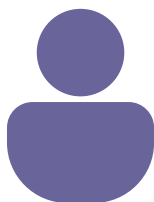


Assessing Interventions to Improve Patient Care Conducted by Pharmacists at an Outpatient Renal Transplant Clinic Within a Collaborative Pharmacy Practice Agreement

Rachel Chelewski, PharmD, CSP, Keren Rodriguez, PharmD, CSP, Autumn Zuckerman, PharmD, BCPS, AAHIVP, CSP, Megan Peter, PhD, Anthony Langone, MD

Quick Facts

Evaluated



1,233

Patients under a collaborative pharmacy practice agreement (CPPA)



5,793

Pharmacist-generated prescriptions

Results



3,852

Pharmacist interventions



70%

of interventions were medical record assessments to ensure safe/effective medication use



0

Errors identified in orders audited by physicians

Pharmacists are integral to the renal transplant clinic and can safely use a CPPA to manage patients with frequent medication changes.

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Background

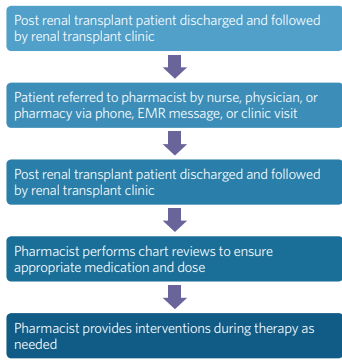
- Collaborative pharmacy practice agreements (CPPA) permit pharmacists to perform clinical services under a supervising physicians without direct intervention.
- The Vanderbilt Renal Transplant Clinic implemented a CPPA in March 2017.

Figure 1: Pharmacist Responsibilities

Medication Changes*	<ul style="list-style-type: none"> • Taper and discontinue medications per protocols • Renew and generate orders for non-controlled medications
Patient Education	<ul style="list-style-type: none"> • Medication counseling for post-transplant patients
Drug Information Resource	<ul style="list-style-type: none"> • Provide medication and dosing information to providers and nursing staff
Treatment Access	<ul style="list-style-type: none"> • Complete insurance prior authorizations and appeals for medical approval • Obtain financial assistance as needed

*Actions supported by CPPA

Figure 2: Clinic Workflow



Steps Performed in Chart Reviews for Orders

- Verify CPPA referral on file
- Verify last clinic visit occurred within 12 months
- Review EMR for medication changes
- Review laboratory results
- Update medication list if appropriate

1,233 Patients
5,793 Pharmacist-Generated Prescriptions

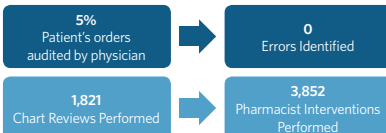
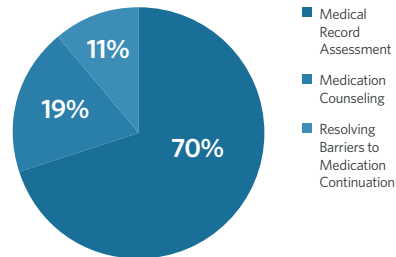


Figure 3: Types of Pharmacist Interventions



Results

Table 1: Pharmacist Interventions by Category

Intervention Category	Subcategory	n	%
Medical Record Assessment (n=2,695)	Coordination of Care	1,580	41%
	Dose Clarification	600	16%
	Appropriateness of Therapy	284	7%
	Labs and Medication Monitoring	156	4%
	Medication Reconciliation	61	2%
	Allergy Review	10	<1%
Medication Counseling (n=734)	Disease-Related Events or Symptoms	4	<1%
	Drug/Administration Information	635	16%
	Side Effect Management	53	1%
	Drug Interaction	38	1%
	Storage and Stability	8	<1%
Resolving Barriers to Medication Continuation (n=423)	Facilitating Medication Access	378	10%
	Adherence	45	1%

Methods

Study Design

Sample	Adult patients prescribed medication from the renal transplant clinic from 01/01/2019 to 06/30/2019
Data Source	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 care
Medication Counseling	Education 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

Conclusions

- Prescription 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 changes such as transplant

Recommendations for Establishing a CPPA

