PREDICTING TIME TO MEDICATION ACCESS FOR HEMATOLOGIC MALIGNANCIES: THE IMPACT OF AN INTEGRATED SPECIALTY PHARMACY AND LIMITED DISTRIBUTION DRUG NETWORKS

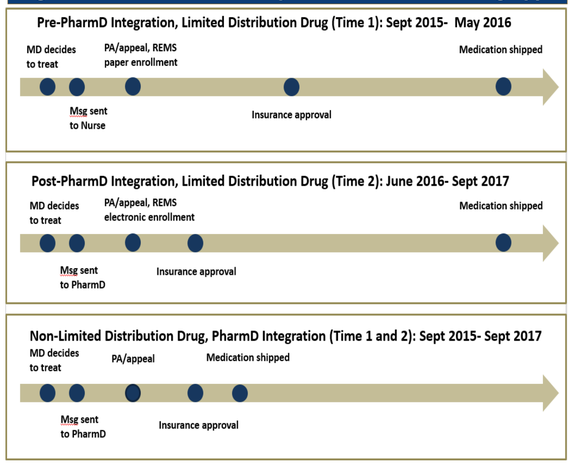
Houston Wyatt, PharmD, CSP[1] | Autumn Zuckerman, PharmD, BCPS, AAHIVP, CSP[1] | Megan Peter, PhD[1] | Samuel Starks[2] | Matt Maulis, PharmD[2] | Josh DeClercq, MS[3] | Leena Choi, PhD[3] | Madan Jagasia, MBBS, MS[4]

[1]Specialty Pharmacy, Vanderbilt University Medical Center, [2]Lipscomb University College of Pharmacy, [3]Department of Biostatistics, Vanderbilt University Medical Center, [4]Division of Hematology and Oncology, Vanderbilt University Medical Center

BACKGROUND

- Oral anti-neoplastic therapy can be difficult to access due to insurance authorization, out of pocket costs, and limited distribution of certain agents (LDDs).[1]
- In September 2015, a clinical pharmacist joined the Hematology Clinic at Vanderbilt-Ingram Cancer Center to facilitate timeliness of medications dispensed by Vanderbilt Specialty Pharmacy (non-LDDs).
- The pharmacist's scope expanded to manage LDDs in June 2016 (Workflow shown in Figure 1).

Figure 1. Clinic Workflow by Time Period and Drug Type



OBJECTIVES

- Compare access time for LDD vs. non-LDD prescriptions
- Assess whether integrating a clinical pharmacist into clinic decreased access time to LDD medications

METHODS

Inclusion criteria:

- Oral anti-neoplastic therapy prescribed by a hematology provider to an adult patient between Sept 2015-Sept 2017, excluding uninsured patients or free drug sample recipients.

Primary outcome:

- Time (in days) from treatment decision to medication shipment

Statistical analysis:

- Proportional odds logistic regression to test whether access time was associated with drug type (LDD vs. non-LDD), Time Period (Time 1: 9/2015-5/2016; Time 2: 6/2016-9/2017), and Drug Type* Time Period, controlling for off-label use and insurance type.

RESULTS

Table 1. Characteristics of Prescriptions (n=410)

	Time 1 (n=119) n (%)	Time 2 (n=291) n (%)
Insurance		
Commercial	70 (59%)	143 (49%)
Government	49 (41%)	148 (51%)
Combination Therapy		
Yes	9 (8%)	31 (11%)
No	110 (92%)	260 (89%)
Off Label		
Yes	10 (8%)	36 (12%)
No	109 (92%)	255 (88%)
Drug Type		
Non-LDD	89 (75%)	196 (67%)
LDD	30 (25%)	95 (33%)
Common Medications		
LDD:		
Revlimid®	23 (19%)	60 (21%)
Pomalyst®	7 (6%)	35 (12%)
Non-LDD:		
Imbruvica®	30 (25%)	41 (14%)
Ninlaro®	16 (13%)	39 (13%)
Jakafi®	17 (14%)	36 (12%)

RESULTS

Primary Outcome

Median time from treatment decision to shipment:

- 6 days (IQR: 3-9) for LDD
- 3 days (IQR: 1-6) for non-LDD

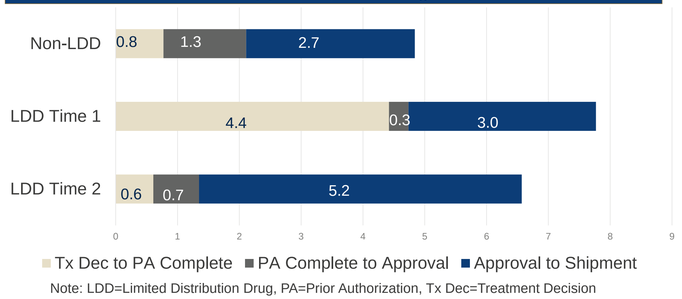
Predictors of Medication Access Time (Table 2)

- Longer access time for off-label than on-label indications
- In Time 1, time from treatment decision to shipment was significantly longer for LDD than non-LDD drugs
- For LDD drugs, access time reduced from Time 1 to Time 2

Table 2. Proportional Odds Logistic Regression testing predictors of Medication Access Time

Predictor	Odds Ratio	Lower CI	Upper CI	p-value
Time 2 vs. Time 1	1.34	0.86	2.09	0.191
LDD vs. Non-LDD	6.56	3.07	14.04	**<0.001**
Off-label vs. on-label	2.59	1.47	4.55	**0.001**
Government vs. Commercial Insurance	1.02	0.72	1.44	0.905
Time 2 * LDD	0.41	0.17	0.96	**0.040**

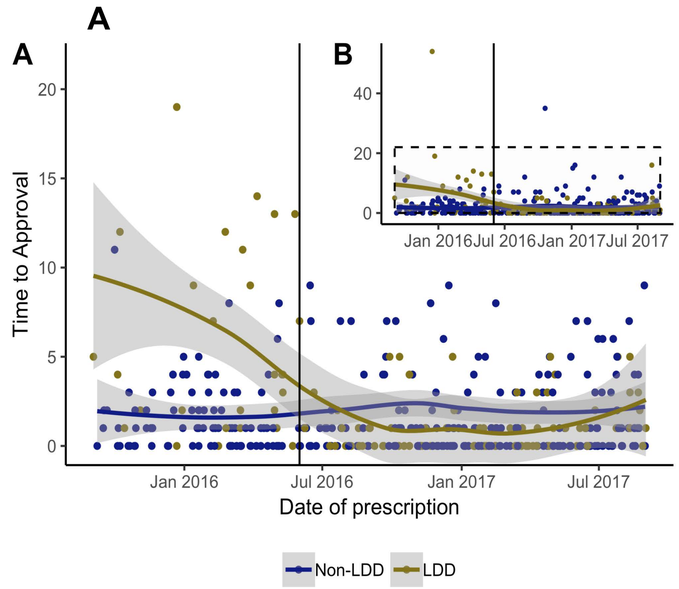
Figure 2. Mean Days between Treatment Decision, PA Completion, Insurance Approval, and Drug Shipment



Note: LDD=Limited Distribution Drug, PA=Prior Authorization, Tx Dec=Treatment Decision

100% of insurance appeals were approved (5 in Time 1, 23 in Time 2)

Figure 3. Time from Treatment Decision to Insurance Approval: Time 1 {A} vs. Time 2 {B}



CONCLUSION

- Integrating a pharmacist into clinic significantly shortened time from treatment decision to shipment for LDD drugs, partially overcoming access barriers.
- Access to LDDs is still slower than non-LDDs as they cannot be fully integrated into clinic workflow. The integrated specialty pharmacy program adds value to patient access and outperforms LDDs, challenging the value of LDD networks beyond medical economics.

References:
1.Schwartz RN, Eng KJ, Frieze DA, et. al. NCCN Task Force Report: Specialty Pharmacy: J Natl Compr Canc Netw.2010 v. 8, p. S-1-S-12.

Acknowledgements:
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