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]

Quick Facts

Analyzed

119
Pre-PharmD
Integration

291
Post-PharmD
Integration

Over

2015

Two Years of
Patients Prescribed Oral
Anti-Neoplastic Therapy

2017

Results

Significantly shortened time from treatment decision to shipment for LDD drugs

Increased value to patient access and outperformed LDDs, challenging the value of LDD networks beyond medical economics

100% of insurance appeals were approved

VANDERBILT ⋁ HEALTH

Predicting Time to Medication Access for Hematologic Malignancies:
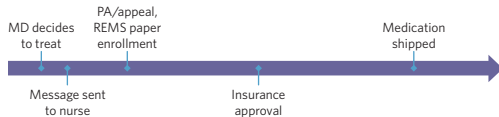## The impact of an integrated specialty pharmacy and limited distribution drug networks

VANDERBILT V HEALTH

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]

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

Pre-PharmD Integration, Limited Distribution Drug (Time 1): 09/15 – 05/16

MD decides to treat — PA/appeal, REMS paper enrollment — Medication shipped

Message sent to nurse — Insurance approval

Post-PharmD Integration, Limited Distribution Drug (Time 2): 06/16 – 09/17

MD decides to treat — PA/appeal, REMS electronic enrollment — Medication shipped

Message sent to PharmD — Insurance approval

Non-Limited Distribution Drug, PharmD Integration (Time 1 & 2): 09/15 – 09/17

MD decides to treat — PA/appeal — Medication shipped

Message sent to PharmD — Insurance approval

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%)

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

Primary Outcomes

Median time from treatment decision to shipment:
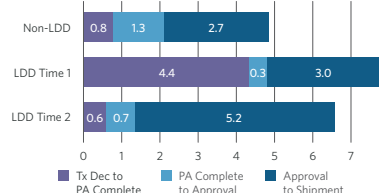- 6 days (IQR: 3-9) for LDD
- 3 days (IQR: 1-6) for non-LDD

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

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

Non-LDD: 0.8 | 1.3 | 2.7
LDD Time 1: 4.4 | 0.3 | 3.0
LDD Time 2: 0.6 | 0.7 | 5.2

(x-axis: 0 1 2 3 4 5 6 7 8)

■ Tx Dec to PA Complete ■ PA Complete to Approval ■ Approval to 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}

— Non-LDD — LDD
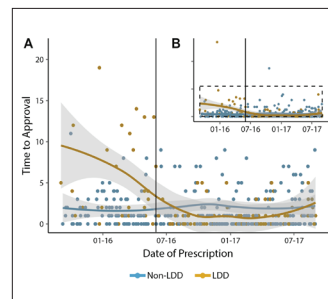
Conclusions

- 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.