VANDERBILT HEALTH | Specialty Pharmacy

Barriers to Growth Hormone Access in Patients at an Academic Medical Center

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PURPOSE

The purpose of this study was to assess factors that affect time to human growth hormone (hGH) approval, utilizing an integrated specialty pharmacy model.

METHODS

Setting and Design	**Setting:** Vanderbilt Specialty Pharmacy (VSP), Vanderbilt Health Systems with integrated specialty pharmacists **Design:** Retrospective cohort analysis
Outcome Measures	Time to approval of growth hormone (measured as the number of days between treatment decision and insurance approval)
Sample	**Inclusion**: Pediatric patients prescribed growth hormone therapy for an FDA indication by a pediatric endocrinology clinic from January 2018-December 2019 **Exclusion:** The decision to treat was rescinded prior to insurance approval, the hGH authorization was being pursued because of insurance change (rather than treatment initiation), or patients chose to initially pay out of pocket without insurance approval **Analysis:** Descriptive statistics, Cox proportional hazard analysis

Table 1. Patient Demographics, Diagnosis, and Medications

Characteristic	n=234 n (%)
Age, median (IQR)	11 (8-13)
Gender, female	76 (33)
Race	
White	185 (79)
Black or African American	15 (7)
Other	34 (14)
Ethnicity	
Not Hispanic, Latino/a, or Spanish origin	158 (68)
Other Hispanic, Latino/a, or Spanish origin	19 (8)
Unknown	57 (24)
Insurance	
Commercial	146 (62)
Tricare	8 (3)
Medicaid	80 (34)

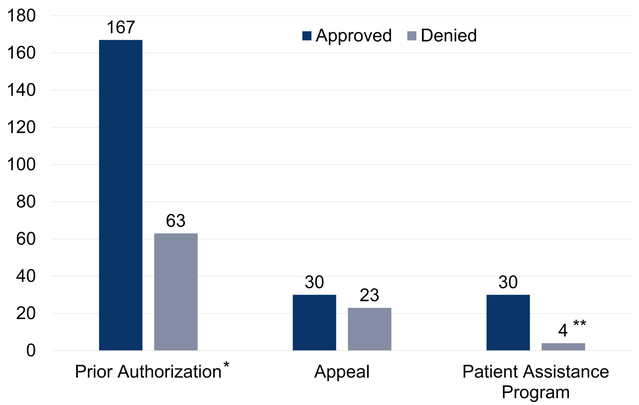
Characteristic	n=234 n (%)
Diagnosis	
Growth Hormone Deficiency	106 (45)
Small for Gestational age	72 (31)
Turner's syndrome	8 (3)
Panhypopituitarism	7 (3)
Prader-Willi syndrome	26 (11)
Idiopathic Short Stature	15 (6)
Medication	
Norditropin	62 (26)
Nutropin	18 (8)
Genotropin	76 (32)
Humatrope	54 (23)
Omnitrope	19 (8)
Zomacton	5 (2)

CONCLUSION

- Despite many challenges to accessing growth hormone, health-system specialty pharmacies helped all patients initiate treatment in a median time of 8 days.
- Patients with Idiopathic Short Stature and those for whom insurance requires additional testing are likely to have longer access times.

RESULTS

Figure 1. Patient Access Journey



*229 patients required a prior authorization, 5 patients did not

**Cash pay was decided after going through every step without approval

Table 2. Time to Insurance Approval Model

Variable	HR (95% CI)	P-Value
Idiopathic Short Stature – Reference		
Growth Hormone Deficiency	1.9 (1.3 – 2.8)	<0.001
Panhypopituitarism	2.6 (1.1 - 5.7)	0.02
Prader-Willi syndrome	2.1 (0.9 – 4.7)	0.06
Small for Gestational age	1.7 (1.0 – 2.7)	0.04
Turner's syndrome	1.6 (0.9 – 2.9)	0.09
Testing Not Required – Reference		
Testing Required	0.3 (0.2 – 0.5)	<0.0001
Commercial Insurance – Reference		
Medicaid	1.3 (0.9 – 1.7)	0.13
Tricare	1.1 (0.9 – 0.5)	0.79
Non-VSP Patient – Reference		
VSP Patient	1.4 (1.06 – 1.9)	0.02

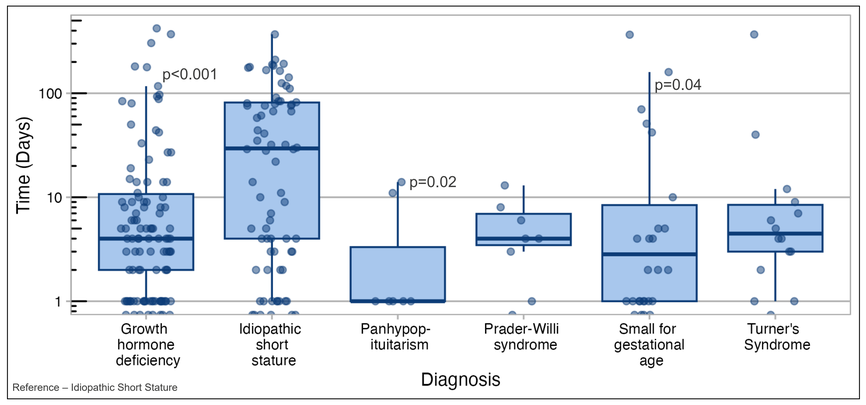
52% of PAs were denied due to diagnosis not being covered

43% of PAs were denied due to not meeting criteria or the required formulary alternative

40% of patients required a second or third level of appeal (out of 53 patients that required an appeal)

9% of patients were required to get additional testing done before approval

Figure 2. Time to Insurance Approval



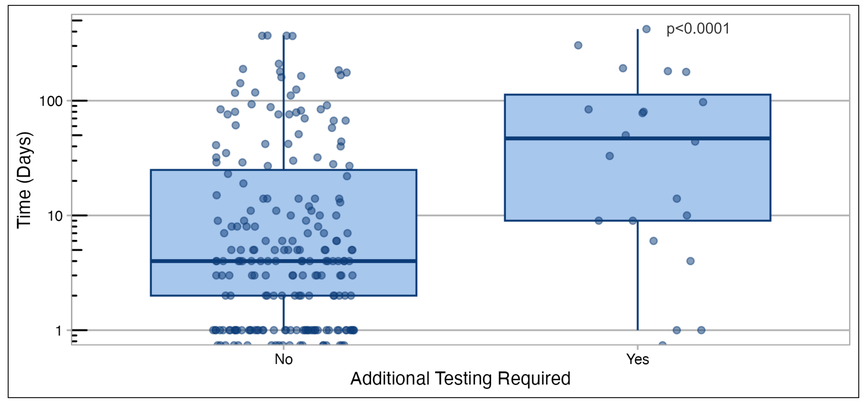
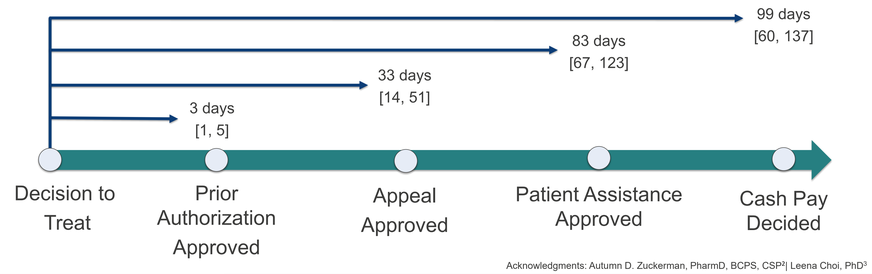


Figure 3. Median Time to Insurance Approval



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