Factors Underlying Antifungal Price Trends in the United States

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Introduction

Antifungal drugs are used to treat conditions ranging from topical dermatologic disease to life-threatening systemic infections. Given their widespread use, information about pricing would be helpful in clinical and policy-related decision making.

Objectives

- Describe antifungal drug price trends
- Identify factors associated with price trends

Methods

- 1. Antifungal drug products available in the United States were identified¹.
- 2. Product characteristics and wholesale acquisition cost (WAC) per unit were obtained for each drug from 1/2000 through 8/2019²⁻³.
- 3. Number of FDA indications⁴ and quantity of professional guideline recommendations and use as prophylaxis⁵⁻¹¹ were obtained.
- 4. Price trajectories over time were clustered into four groups by the shape of their trajectory.
- 5. Relationships between cluster membership and drug characteristics were assessed using Fisher's Exact Test and Likelihood Ratio Tests.

Citations

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	Results				
)n-	 138 antifungal drugs were clustered into 4 group Drugs with high or extreme price increase are list Route of administration was significantly associate administration (Figure 1). Higher average number of FDA indications per or indicating larger price increases were associate No association was identified with number of processing the processing of the processing term. 				
	TABLE 1	Numbe			
	Cluster 1 (most stable)	32			
	Cluster 2 (moderate increase)	96			
	Cluster 3 (high increase)	7			
	Cluster 4 (extreme increase)	3			
)	Table 1: Characteristics of cluster membership including total indications per drug for each.	number of anti			
	TABLE 2 Stre	ength F			
n n n					

TABLE 1		Average ber Chang	e Price ge % Ir	Average FDA ndications / Drug	
Cluster 1 (most stable)		25%	/o	3.2	
Cluster 2 (moderate increase)		50 %	/o	3.7	
Cluster 3 (high increase)		307	%	3.9	
Cluster 4 (extreme increase)	3	837	%	1	
TABLE 2	Strength	Formulation	Route	Average Price Change % (\$)	
Amphatariain D (Mauth Threat)*		Doudor	Mico	Change % (\$)	
Clatrimazala (Tanical)	n/a	Powder	Mico	$(\psi 23.00)$	
Fluconazole	150mg	Tablet	Oral	83% (\$7.91)	
	roomg		U i di		
Flucytosine	500mg	Capsule	Oral	542% (\$53.45)	
Flucytosine Flucytosine	500mg 250mg	Capsule Capsule	Oral Oral	542% (\$53.45) 558% (\$27.72)	Figure 1: Drug
Flucytosine Flucytosine Miconazole	500mg 250mg n/a	Capsule Capsule Powder	Oral Oral Misc.	542% (\$53.45) 558% (\$27.72) 404% (\$7.82)	Figure 1: Drug
Flucytosine Flucytosine Miconazole Miconazole nitrate (Topical)	500mg 250mg n/a n/a	Capsule Capsule Powder Powder	Oral Oral Misc. Misc.	542% (\$53.45) 558% (\$27.72) 404% (\$7.82) 364% (\$4.81)	Figure 1: Drug
Flucytosine Flucytosine Miconazole Miconazole nitrate (Topical) Nystatin (Mouth-Throat)	500mg 250mg n/a 100,000/ml	Capsule Capsule Powder Powder Oral Suspension	Oral Oral Misc. Misc. Oral	542% (\$53.45) 558% (\$27.72) 404% (\$7.82) 364% (\$4.81) 161% (\$0.05)	Figure 1: Drug Cor Most
Flucytosine Flucytosine Miconazole Miconazole nitrate (Topical) Nystatin (Mouth-Throat)	500mg 250mg n/a 100,000/ml 100,000/1mg	Capsule Capsule Powder Powder Suspension Ointment	Oral Oral Misc. Misc. Oral Topical	542% (\$53.45) 558% (\$27.72) 404% (\$7.82) 364% (\$4.81) 161% (\$0.05) 1185% (\$1.24)	Figure 1: Drug Cor Most over f

*denotes drugs in Cluster 4 (extreme price increases)



- ups defined by inflation-adjusted price change over time (Table 1). isted (Table 2).
- iated with cluster membership (p = 0.005), where clusters 3 and 4 were overrepresented in atypical (miscellaneous) routes of
- drug in a cluster was significantly associated with cluster membership across the most substantial clusters 1-3 (p = 0.022), ed with greater number of indications (Table 1).
- rofessional recommendations or prophylaxis recommendation.



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oute of administration by cluster membership

clusions

ntifungal drugs were characterized by price increases me. Administration route and number of FDA indications ssociated with greater price increases.

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