

Analysis of common oral and topical dermatologic medication price variation by source

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Abstract

Online coupon retailers and pharmacies are popular sites that patients can access discounted medications when compared to cash prices. These sources are especially important for those patients without insurance. In our study, we analyzed commonly prescribed topical and oral medications and compared the cash prices to the discounted medications based on a typical month of usage. We found savings in every one of the medications that we analyzed, some with savings up to hundreds of dollars. Savings were present in all the sources analyzed, with the coupon-based programs often having the lowest price. We suggest certain alternative prescribing guidelines when considering patients who may not be able to afford cash prices of medications. Our hopes with this study are to quantify savings for discounted medications as well as to help physicians target more affordable medications for their patients.

Keywords: drug prices

Introduction

Adherence is critically important for successful therapeutic outcomes. In dermatology adherence is challenging because medications, especially topical varieties, require more intense end-user effort. Patients may also view dermatologic problems as less critical health concerns. These factors contribute to poor outcomes and therefore addressing any barriers to adherence is critical. Herein, we examine

ways that medication cost may be ameliorated as this has also been linked to adherence [1], a relationship that is even tighter in lower socioeconomic groups.

The greatest impact of price is on patients who have to pay the cash price for their medications and we therefore examine the cash price, rather than insurance co-pays which are highly individual and variable. Patients paying cash price include 9.1% of Americans who remain without insurance despite the implementation of the Affordable Care Act [2]. People who have limited formulary coverage also are impacted by high drug prices.

Synopsis

In this study, we gathered a list of generic topical and oral drugs frequently prescribed by dermatologists, according to a previously categorized by studies citing geographic variations on medication prices [3]. Our aim was to quantify the variation in prices for the same medications to examine if attention to source may be a tool that physicians can use to improve adherence. This would be a useful tool when targeting discount sources to patients from low-socioeconomic backgrounds. For comparisons, we utilized GoodRX, ScriptSave, and RXsaver, which are popular online coupon distribution websites. Data was also gathered from CanadaRXConnect, one of the largest online Canadian pharmacies, which ships medications directly to patients in the United States. The lowest price for each medication was

Table 1. The cash price range was also gathered from GoodRX. The range was calculated via the highest cash price on GoodRX and the yearly cash price was calculated using the same guidelines at the cash price. Lowest prices are emboldened.

	Hydrocortisone: 50g 2.5%	Ketoconazole: 30g 2%	Benzoyl Peroxide: 50g/5%	Clindamycin: 50ml/1%	Betamethasone dipropionate: 0.05%/60ml	Tretinoin:20g (0.1%)	Tacrolimus: 60g (0.1%)	Clobetasol: 60ml/.05%
Cash price (\$)	45.00	127.00	23.00	130.00	142.00	113.00	482.00	350.00
Cash Price Range (\$)	37-59	77-135	20-27	95-160	102-174	128-203	443-527	249-511
Online pharmacy (\$)	29.70	69.84	100.54	57.96	44.08	45.91	255.14	51.39
GOODRx	7.12	21.2	10.97	31.48	34.21	39.56	138.48	68.34
RxSaver	5.99	16.32	22.5	40.59	42.59	40.34	151.27	50.22
ScriptSave	8.71	38.2	6.44	35.14	48.2	44.81	226.6	64
Monthly Low (\$)	5.84	15.90	6.27	30.67	33.33	38.54	134.91	48.93
Monthly Cash (\$)	43.84	206.22	22.41	126.65	115.29	275.23	391.32	284.16
Monthly Savings	38.01	190.32	16.13	95.98	81.96	236.68	256.41	235.23
% of poverty Level(\$)	3.76	18.81	1.59	9.49	8.10	23.40	25.35	23.25

taken from these websites. We used tools on GoodRX to identify the average cash price and the range of cash prices.

In order to find the most cost-effective solution, we found the cheapest dosage available for purchase in these sources based on mg/dollar. To highlight the impact on low income patients we show cost as a % of the national poverty level for a one-person household in 2019 (\$12,410), [4]. The percentage of poverty level income was based on the cash prices of the medication for one month (30 Days). Another calculation included in the figures was the monthly savings based on the discounted drug price compared to the average cash price of the drug. The monthly dosage is based on 1% body surface area of treatment (one week on, one week off dosing for the corticosteroids and full-time usage for the non-corticosteroids) at the lowest GoodRX price [5].

Results are shown for topical drugs (**Table 1**) and oral drugs (**Table 2**).

Discussion

We found that all medications identified in the previous study are significantly cheaper using the coupon sites or online pharmacy when compared to the cash prices. The coupon sites held the lowest price for every medication we analyzed. GoodRX and RXSaver each held the lowest prices for four of the medications, ScriptSave had the lowest prices on two medications and the pharmacy did not have the lowest price on any of the analyzed medications.

One strategy that the data suggests could be viable for patients is management of costs by balancing frequency of use. For example, for similar pricing a financially-limited patient could either apply hydrocortisone every day or choose betamethasone

Table 2. All figures listed in dollar amounts unless otherwise noted. Monthly costs for oral medications were calculated using the coupon price and cash prices, assuming patients would take one dose each day. Coupon retailers with the lowest prices are emboldened.

	Minocycline: 100mg (60 tablets)	Doxycycline: 100mg (20 capsules)	Isotretinoin: 40mg (60 Capsules)
Cash price	333.72	30.00	389
Cash Price Range	254-466	28-34	327-405
Online pharmacy	106.73	109.00	*
GOODRx	32.92	11.92	197.14
RxSaver	21.49	11.26	195.4
ScriptSave	34.3	14.8	187.24
Monthly Low	10.75	5.63	93.62
Monthly Cash	166.86	75.00	194.5
Monthly Savings	156.12	69.37	100.88
% of Poverty Income	15.43	6.86	9.97

*Isotretinoin is not available to be shipped internationally.

dipropionate every 3 days (both \$44/month), depending on the patient's condition.

To avoid the high costs of certain topical corticosteroids such as clobetasol (\$341/ month), physicians could consider substituting more cost-effective corticosteroids of similar potency such as betamethasone dipropionate (\$138/month). A mild condition that requires corticosteroids could be treated by a cost effective, low potency corticosteroid like hydrocortisone (\$18/month).

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When considering a patient's ability to afford oral medications, doxycycline is a more cost-effective drug than minocycline when indicated for the same condition. Certain drugs such as tretinoin, tacrolimus, clobetasol, and isotretinoin, have an extremely high financial burden on patients at the cash price. Physicians should be aware of the financial impact of these drugs, especially when dealing with patients who may not be able to afford expensive medications.

Conclusion

In conclusion, every drug which was included in our list of topical and oral medications was considerably cheaper using the discount services studied. The coupon websites seem to be a more reliable source for targeting the cheapest medications for patients over online pharmacies. However, the coupon sites did not give the same price on each medication and no one coupon site consistently gave the best price suggesting that physicians may advise that even amongst these comparison shopping may be worthwhile for patients. Online coupon services also have the convenience of using a patient's current pharmacy to receive their medications. Our study indicates that online coupon sources are a useful starting point for comparison pricing. If pricing affects adherence, as studies have suggested, physician awareness of these variations may enable us to improve our patient outcomes.

Potential conflicts of interest

The authors declare no conflicts of interests.

