

Over-the-Counter Topical Skin Products—A Common Component of Skin Disease Management

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Over-the-counter (OTC) products are widely recommended by physicians and utilized by the public for the treatment and prevention of disease. The use of OTC drugs has been studied extensively, but the patterns of physician recommendations for OTC topical skin products and the characteristics associated with patients receiving such recommendations remain unclear.

We aimed to look at patterns of OTC topical skin product recommendations by physician specialty, patient demographics, geographical region, diagnosis, and metropolitan status to determine whether there are differences in the utilization of these products in the treatment of dermatologic conditions.

We analyzed office-based physician visits for OTC topical skin product recommendations recorded in the 1995 to 2000 National Ambulatory Medical Care Survey (NAMCS).

From 1995 to 2000, there were an estimated 36 million physician recommendations for OTC topical skin products. Although dermatologists were responsible for 53.8% of recommendations, pediatricians had the largest proportion of recommendations per prescription recommendation (OTC/Rx=0.58). Women patients, white patients, patients younger than 20 years, urban residents, and those living in the Southern United States received greater numbers of OTC topical skin product recommendations. Of the leading products recommended, hydrocortisone (27.6%),

anti-infectives (23.4%), and moisturizers (13.4%) were the most common.

OTC topical skin product recommendations by US physicians are substantial, particularly among dermatologists and primary care physicians. Physician specialty, gender, race, and age appear to be factors associated with those recommendations.

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The use of over-the-counter (OTC) products has long played an important role in physician prescribing practices and in patients' self-treatment of disease.¹⁻⁵ The relative safety, efficacy, availability, and cost-effectiveness of these products are probably important contributing factors to their extensive popularity. This popularity is readily reflected by the enormous retail sales of these products both in the United States and globally—approximately \$17.8 billion and \$47 billion, respectively, in 2001.⁶ The extensive use of OTC products is further illustrated by the finding that more than half of the 3.5 billion health problems treated in 2000 resulted in the recommendation of an OTC drug.^{7,8} Use of these products is not, however, limited to physician recommendation. OTC product use also represents one of the more important means by which individuals manage and take responsibility for their own health problems and provides the individual with a sense of personal autonomy with decisions regarding their own healthcare. Accordingly, 57% of patients reported using 1 or more OTC medications during the past month.¹ By sales, the most popular OTC products used by US consumers in 2000 were for cold/cough, pain, and oral care, according to the Consumer Healthcare Products Association.⁶ These results were similar to those found in the United Kingdom, where 41% of OTC purchases were for relief of pain, skin conditions, colds, and cough.^{9,10}

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Table 1.

OTC Topical Skin Product Recommendations by Physician Specialty, Gender, Race, Age Group, and Geographic Region: NAMCS, 1995–2000*

Characteristic	Estimated Frequency of Recommendation	%	OTC/Rx
Physician specialty			
Family/general medicine	6,370,000	17.8	0.32
Internal medicine	1,650,000	4.6	0.21
Pediatrics	5,830,000	16.3	0.58
Dermatology	19,200,000	53.8	0.30
Obstetrics and gynecology	663,000	1.9	0.15
General surgery	134,000	0.4	0.11
Otolaryngology	265,000	0.7	0.32
Orthopedic surgery	51,500	0.1	0.28
Ophthalmology	49,900	0.1	0.29
Urology	55,500	0.2	0.51
Cardiovascular diseases	16,700	0.0	0.27
Neurology	0	0.0	0.00
Psychiatry	0	0.0	0.00
Other	1,410,000	4.0	0.40
Gender			
Female	20,520,000	57.4	0.31
Male	15,210,000	42.6	0.33
Race			
White	29,420,000	82.3	0.31
Black/African American	4,600,000	12.9	0.41
Asian/Pacific Islander	1,660,000	4.6	0.32
Native American/Native Alaskan	50,000	0.1	0.10
Age group, y			
0–9	6,880,000	19.3	0.50
10–19	5,990,000	16.8	0.32
20–29	3,360,000	9.4	0.24
30–39	4,400,000	12.3	0.28
40–49	4,580,000	12.8	0.31
50–59	2,850,000	8.0	0.25
60–69	3,020,000	8.5	0.27
70–79	2,970,000	8.3	0.30
80–89	1,440,000	4.0	0.32
≥90	240,000	1.0	0.62
Geographic region			
South	12,500,000	34.9	0.33
West	8,330,000	23.3	0.29
Northeast	7,880,000	22.0	0.32
Northwest	7,070,000	19.8	0.33

*OTC indicates over-the-counter; NAMCS, National Ambulatory Medical Care Survey; Rx, prescription.

Table 2.

Top 20 Most-Recommended OTC Topical Skin Products: NAMCS, 1995–2000*

OTC Product	Estimated Frequency of Recommendation	%
Hydrocortisone preparation	13,100,000	35.3
Polysporin®	3,300,000	8.9
Bacitracin®	2,610,000	7.0
Sunscreen	1,990,000	5.4
Cream/lotion/emollient, unspecified	1,510,000	4.1
Benzoyl peroxide	1,400,000	3.8
Mediplast® plasters	1,380,000	3.7
Neosporin®	1,270,000	3.4
Eucerin®	1,250,000	3.4
Cetaphil®	1,190,000	3.2
Benzyl benzoate	934,000	2.5
Betadine®	903,000	2.4
Oxy Wash®	887,000	2.4
Aquaphor®	876,000	2.4
Oxy 10®	871,000	2.3
Duofilm®	760,000	2.0
Selsun®	736,000	2.0
Soap/cleanser, unspecified	729,000	2.0
Lotrimin®	716,000	1.9
Clotrimazole	712,000	1.9
Total	37,124,000	100.0

*OTC indicates over-the-counter; NAMCS, National Ambulatory Medical Care Survey.

Although it is difficult to quantify the total usage of OTC topical skin products, it is safe to assume that the recommendation and use of these products are substantial. From 1995 to 2000, retail OTC sales for acne products were \$1.76 billion; antiseptics, \$764 million; sunscreens/sunburn aids, \$1960 million; first aid products, \$2970 million; and petroleum jelly, \$350 million.⁶ OTC skin products have even made their way into the physician's offices for direct sale to consumers, with one study reporting an estimated 40% to 70% of dermatologists selling products in their offices.¹¹

In recent years, the number of prescription products making the transition to OTC has risen, and this trend is making available an ever-increasing armamentarium of commonly used products. As more prescription medications have made the

transition to OTC status, physicians who previously prescribed these products have continued to recommend them.^{9,12-14} Similarly, patient use of these newly converted OTC products has continued or increased.^{12,15,16} Pharmacists, too, have made a push to use their healthcare training and expertise to educate and recommend OTC products to the public.¹⁶ These trends have been well studied for products such as analgesic, allergy, and heartburn medications, but these trends probably also apply to a majority of products making the prescription-to-OTC transition.^{17,18} Important reasons for these trends may include patient familiarity with these products, widespread availability, positive attitudes regarding the efficacy and safety of prescription products making the transition and the added cost-benefit to obtaining these, or generic equivalents, over-the-counter. For example, there was an estimated savings of \$160 million in healthcare costs in the first year after the switch of 1% hydrocortisone from prescription to OTC, principally owing to fewer physician visits and less time lost from work.¹⁶

Approximately 7% to 10% of all visits to physicians, regardless of specialty, are for skin conditions.¹⁹ OTC products are common first-line and supplemental treatments for many dermatologic conditions. The use of OTC products such as moisturizers, cleansers, and acne products is significant but not well characterized. The physician prescribing patterns of OTC topical skin products and the patient characteristics and diagnoses leading to such recommendations are not known. The purpose of this study was to gain a better understanding of how, and what, OTC products are being used to treat dermatologic conditions.

Methods

The National Ambulatory Medical Care Survey (NAMCS) is conducted by the National Center for Health Statistics as an ongoing descriptive data collection effort regarding office-based physician

practice in the United States.²⁰ Sampling is limited to non-federally employed physicians principally engaged in outpatient care activities. The multistage probability sampling design is stratified by primary sampling unit (county, contiguous counties, or standard metropolitan statistical area), then by physician practices within the sampling unit, and, finally, by patient visits within the 52 weekly randomized periods. Within small practices, a 100% sample of one week's visits is possible. For very large practices, 20% of patient visits are randomly sampled. The resulting national estimates describe the use of ambulatory care services in the United States.

The study interval of 1995 to 2000 was chosen because the data from this period were the most recent available. For each visit sampled, a 1-page patient log was completed that included demographic data, reasons for patient visits, physicians' diagnoses, drug mentions, and referral practices. Drug mentions were defined by the National Center for Health Statistics as "physician's entry of a pharmaceutical agent ordered or provided, by any route of administration, for prevention, diagnosis, or treatment."

OTC topical skin products were defined as those products that can be obtained without a prescription, are supplied as a topical preparation, and are used to treat dermatologic conditions including those of the oral, vaginal, and anal mucosa. These preparations broadly included moisturizers, keratolytic products, soaps/cleansers, shampoos, acne products, and anti-inflammatory, antipruritic, and anti-infective agents. All medications taken by mouth or injection were excluded. In cases where products may be supplied as both prescription and nonprescription preparations, the

Table 3.

Leading OTC Topical Skin Products by Race: NAMCS, 1995–2000*

Race	OTC Product	Estimated Frequency of Recommendation	%
White	Hydrocortisone	10,200,000	39.9
	Polysporin [®]	3,130,000	12.2
	Monistat [®] 7	2,860,000	11.2
	Bacitracin [®]	2,260,000	8.8
	Sunscreen	1,930,000	7.5
	Hytone [®]	1,350,000	5.3
	Cream/lotion/emollient	1,320,000	5.2
	Mediplast [®] plasters	1,280,000	5.0
	Neosporin [®]	1,240,000	4.8
Black/ African American	Hydrocortisone	1,520,000	41.4
	Selsun [®]	408,000	11.1
	Hytone [®]	243,000	6.6
	Eucerin [®]	235,000	6.4
	Phisodex [®]	235,000	6.4
	Aveeno [®]	233,000	6.3
	Oxy Wash [®]	213,000	5.8
	Cetaphil [®]	210,000	5.7
	Lotrimin [®]	198,000	5.4
Benzoyl peroxide	180,000	4.9	
Asian/ Pacific Islander	Hydrocortisone	787,000	50.0
	Bacitracin [®]	116,000	7.4
	Hydrocortone [®]	115,000	7.3
	Vaseline [®]	97,000	6.2
	Shampoo	97,000	6.2
	Phisodex [®]	78,000	5.0
	Cortisone	73,000	4.6
	Polysporin [®]	71,000	4.5
	Aveeno [®]	69,000	4.4
Monistat [®] 7	68,000	4.3	
Native American/ Native Alaskan	Bacitracin [®]	71,000	51.4
	Coal tar	19,000	13.8
	Selenium sulfide shampoo	14,000	10.1
	Alpha Keri [®]	11,000	8.0
	Desenex [®]	9,000	6.5
	Benzyl benzoate	9,000	6.5
	Cortisone	5,000	3.6

*OTC indicates over-the-counter; NAMCS, National Ambulatory Medical Care Survey.

Table 4.

Leading OTC Topical Skin Products by Metropolitan Status: NAMCS, 1995–2000*

Metropolitan Status	OTC Product	Estimated Frequency of Recommendation	%
Metropolitan	Hydrocortisone	83,000,000	36.6
	Polysporin®	31,900,000	14.1
	Bacitracin®	20,400,000	9.0
	Sunscreen	18,100,000	8.0
	Hytone®	13,700,000	6.0
	Benzoyl peroxide	12,500,000	5.5
	Mediplast® plasters	12,000,000	5.3
	Cream/lotion/emollient	11,800,000	5.2
	Cortisone	11,700,000	5.2
	Neosporin®	11,700,000	5.2
Nonmetropolitan	Hydrocortisone	1,000,000	28.3
	Bacitracin®	568,000	16.1
	Cream/lotion/emollient	329,000	9.3
	Duofilm®	322,000	9.1
	Hytone®	239,000	6.8
	Selsun®	222,000	6.3
	Lotrimin®	221,000	6.3
	Eucerin®	214,000	6.1
	Benzyl benzoate	207,000	5.9
	Aquaphor®	206,000	5.8

*OTC indicates over-the-counter; NAMCS, National Ambulatory Medical Care Survey.

decision to include or exclude were based on the investigator's experience as to the likelihood of the product to fall into one category or the other. For example, benzoyl peroxide may be supplied as a prescription medication, but it was generally considered to be nonprescription unless specific prescription preparations were mentioned. Terbinafine, conversely, was considered to be a prescription medication, although certain OTC preparations are available. These discriminations had to be made relatively infrequently, with most products fitting into a single therapeutic category without ambiguity.

The therapeutic categories were based on those described in the NAMCS survey and for the purposes of this study were defined as follows. Hydrocortisone preparations included both generic and brand name hydrocortisone products. Because

there were no descriptors of steroid strength associated with the drug mentions, there was no way to discriminate between OTC and higher potency prescription preparations. Therefore, all hydrocortisone preparations were included as OTC, whereas all other corticosteroids preparations were excluded. Moisturizers included ointments, creams, emollients, or lotions used for the purposes of moisturizing or hydrating the skin. Products that included additional ingredients for purposes other than moisturizing, such as lactic acid or steroids, were excluded from this category. Anti-infectives included products designed for the treatment or prevention of cutaneous bacterial or fungal infections. Antiseptics and disinfectants included alcohol and hydrogen peroxide preparations, as well as products specifically identified as antiseptic or disinfectant solutions. Acne products included commercial acne medications, cleansers, and benzoyl peroxide preparations. The category of antipruritics/analgesics included topical preparations designed to relieve itch or pain but excluded hydrocortisone products, which were placed in their own category. Cleansers/soaps included products designed

for cleansing and excluded products that had any other specific therapeutic purpose (eg, acne and antiseptic products). Shampoos included all OTC preparations, medicated or nonmedicated. Sunscreens were topical products designated specifically for sun protection as their primary function. Keratolytics included products designed for exfoliation, such as wart treatments and lactic acid or salicylic acid preparations. All other OTC topical skin products were captured in the miscellaneous dermatologics category, including nonshampoo tar preparations, antiperspirants, anorectal treatments, and brand name products without a specific indication that may fall into more than one category (eg, Neutrogena®).

Sampling weights were applied to achieve the nationally representative estimates. All estimates

Table 5.

**Product Information for the Top 20
Most-Recommended OTC Topical Skin Products*²¹**

OTC Product [†]	Trade Size(s)	Price(s) [‡]
Hydrocortisone preparations		
Lotion	60 mL, 120 mL	3.25–7.88, 6.29–11.80
Cream	15 g, 30 g, 120 g, 454 g	1.35–1.60, 1.80–10.16, 4.98–6.50, 15.00–21.60
Ointment	30 g, 60 g, 120 g, 454 g	2.20–4.04, 3.24, 7.88, 23.76–64.96
Polysporin [®]		
Ointment	15 g	3.42–4.85
Powder	10 g	8.96–14.36
Bacitracin [®]		
Ointment	15 g, 30 g, 120 g, 454 g	1.09–6.47, 0.76–9.04, 4.32–16.80, 13.20–58.32
Sunscreen		
	Varies greatly	Varies greatly
Cream/lotion/emollient, unspecified		
	Varies greatly	Varies greatly
Benzoyl peroxide		
Lotion	30 mL	1.98–4.41
Gel	30 g, 45 g	2.05, 1.90–16.35
Mediplast [®] plasters pad		
	25 pads	24.06
Neosporin [®]		
	15 g, 30 g	3.67–8.90, 5.90
Eucerin [®]		
Lotion	120 mL, 240 mL, 480 mL	3.75, 5.10, 7.37
Cream	57 g, 120 g, 240 g, 454 g	3.29, 5.10–7.97, 7.37, 9.45
Cleanser	240 g	2.55
Cetaphil [®]		
Solution	240 mL	5.87
Lotion	120 mL, 240 mL, 480 mL	3.44–8.94, 4.75–5.82, 9.44–15.13
Cream	90 g, 480 g	5.13, 11.44
Cleanser	4.5 oz	3.13
Benzyl benzoate emulsion		
	Only available in the UK	
Betadine [®]		
Swabs (3/pack)	50, 200, 1000 pack	14.56, 30.56, 52.69
Solution	15 mL, 120 mL, 240 mL, 480 mL, 960 mL, 3840 mL	0.95, 1.21, 11.19, 17.24, 5.34, 17.91
Ointment	30 g, 0.03 oz (144 pack) 0.125 oz (144 pack)	9.32, 14.71 87.25
Oxy Wash [®] liquid		
	240 mL	4.35

Table 5. (continued)

OTC Product [†]	Trade Size(s)	Price(s) [‡]
Aquaphor [®] Ointment	50 g	3.68–7.50
Oxy 10 [®]		
Pads	55 pads, 90 pads	2.96, 4.35
Gel (shower)	240 g	4.35
Gel (spot treatment)	30 g	4.35
Duofilm [®] Liquid	15 mL	7.40
Selsun [®] shampoo	210 mL	7.41
Soap/cleanser, unspecified	Varies greatly	Varies greatly
Lotrimin [®]		
Solution	10 mL	5.69
Lotion	20 mL	8.34
Cream	12 g, 24 g	6.17, 8.86
Spray	113 g	5.08
Powder	90 g	5.77
Clotrimazole		
Cream	15 g, 30 g, 45 g	4.49–23.71, 5.39–24.08, 8.99–25.64
Tablet (vaginal)	3 tabs, 7 tabs	10.26, 35.15

*OTC indicates over-the-counter; UK, United Kingdom.

[†]Patients may purchase these products at most local pharmacies or grocery markets. Some physicians also dispense many of these products directly from their offices, especially sunscreens, moisturizers, and cleansers.

[‡]Average wholesale price in US dollars. Price may vary by formula concentration or manufacturer.

Data are from 2003 Drug Topics Red Book.²¹

derived from the NAMCS are subject to sampling variability. The relative standard error is a measure of sampling variability and is related to the number of patient visits. All data management and analysis were performed with the Statistical Analysis System (SAS Institute). Statistical significance was assessed with χ^2 analysis.

Results

Physician and Patient Trends—Table 1 summarizes OTC topical skin product recommendations by physician specialty and patient gender, race, age, and geographic region. From 1995 to 2000, US physicians made an estimated 36 million recommendations for OTC topical skin products. Of the specific physician specialties, dermatology accounted for more than half of all recommendations made (53.8%), 3 times more than the next highest

specialty (family and general medicine, 17.8%). Family medicine, internal medicine, and pediatrics accounted for 17.8%, 4.6%, and 16.3% of all recommendations, respectively, and 38.7% of all recommendations as a group. Pediatrics, however, had the highest ratio of OTC-to-prescription recommendations of any specialty (OTC/Rx=0.58), followed by urology (OTC/Rx=0.51) and other specialties taken as a whole (OTC/Rx=0.40). Psychiatry and neurology accounted for none of the recommendations. Obstetrics and gynecology accounted for just less than 2% of all recommendations, whereas all other remaining specialties accounted for less than 1% each.

OTC topical skin product recommendations were more commonly made to female patients (57.4%) than male patients (42.6%) and to whites (82.3%) as compared with patients of all other races (17.7%).

Although male patients received fewer recommendations overall, they received a higher proportion of OTC recommendations (OTC/Rx=0.33) than female patients (OTC/Rx=0.31).

In general, patients younger than 50 years received a greater percentage of all OTC recommendations (70.6%) than those 50 years and older (29.4%). The highest percentages of OTC recommendations were made to those in the 2 youngest age groups, 0 to 9 years (19.3%) and 10 to 19 years (16.8%); patients in the age groups of 80 to 89 years and 90 years and older received the lowest percentages, at 4.0% and 0.7%, respectively. These findings, of course, may simply reflect variations in population among age groups. It is interesting that patients in the very youngest (0–9 years) and the very oldest (≥ 90 years) age groups had the highest proportion of OTC-to-prescription recommendations (0.53 and 0.62, respectively).

Each of the other age groups accounted for approximately 8% to 13% of the overall OTC recommendations, with OTC-to-prescription ratios between 0.24 and 0.32.

By geographical region, the South had the most recommendations for OTC products (34.9%), followed by the West (23.3%), Northeast (22%), and Northwest (19.8%). The OTC-to-prescription ratios for these regions were all very similar, ranging from 0.29 to 0.33.

Most Recommended Products—Among all OTC topical skin products, those that fall into the general categories of hydrocortisone preparations, anti-infectives, moisturizers, sunscreens, acne products, wart treatments, and cleansers were the most commonly recommended. Of the top individual OTC topical skin products, hydrocortisone (35.3%) was the most commonly mentioned, followed by Polysporin® (8.9%), Bacitracin® (7.0%), and sunscreen (5.4%)(Table 2). Anti-infectives accounted for 6 of the top 20 products recommended and 25.6% of all recommendations among the top 20 products. The third most common therapeutic group represented in the top 20 was moisturizers, which accounted for 13.1% of all recommendations. Acne products also were well

Table 6.

Estimated Frequency and Percentage of OTC Topical Skin Product Recommendations by Therapeutic Category: NAMCS, 1995–2000*

Therapeutic Category	Estimated Frequency of Recommendation	%
Hydrocortisone preparations	13,100,000	27.6
Anti-infective products	11,100,000	23.4
Moisturizers	6,370,000	13.4
Keratolytics	3,320,000	7.0
Acne products	3,230,000	6.8
Sunscreens	2,170,000	4.6
Shampoos	2,060,000	4.3
Cleansers/soaps	1,730,000	3.6
Antipruritics/analgesics	1,520,000	3.2
Antiseptics/disinfectants	1,310,000	2.8
Dermatologics, miscellaneous	1,600,000	3.4
Total	47,510,000	100.0

*OTC indicates over-the-counter; NAMCS, National Ambulatory Medical Care Survey.

represented, accounting for 8.5% of all recommendations among the top 20 products. Tables 3 and 4 detail leading OTC topical skin products by race and metropolitan status. Table 5 provides product information for the top 20 most recommended OTC topical skin products.²¹

Therapeutic Category—Among therapeutic categories, hydrocortisone preparations (27.6%), anti-infective products (23.4%), and moisturizers (13.4%) were the most commonly recommended OTC topical skin products. Acne products and keratolytics both accounted for approximately 7% of all recommendations. Sunscreens, shampoos, cleansers/soaps, antipruritic/analgesics, antiseptics/disinfectants, and miscellaneous dermatologics all contributed approximately 3% to 4% to the overall number of OTC topical skin product recommendations (Table 6).

Conclusion

The use of over-the-counter products is common and is estimated to be about one third of prescription product use. OTC topical skin products appear to be no exception. Based on 1995 to 2000 NAMCS data, we estimated that there were a total of almost 36 million recommendations for these

Table 7.

Common Skin Condition Diagnoses and Associated OTC Topical Treatments*

Diagnoses	OTC Topical Recommendations	Estimated Frequency	
Seborrheic dermatitis	Cream/lotion/emollient, unspecified	124,000	
	Hytone [®]	96,000	
	Benzyl benzoate	80,000	
	Selenium sulfide shampoo	78,000	
	DHS Zinc [®]	53,000	
	ZNP [®]	44,000	
	Soap, unspecified	43,000	
	Cetaphil [®]	41,000	
	Carmol [®]	40,000	
	Cortisone	38,000	
Atopic dermatitis	Hydrocortisone	533,000	
	Eucerin [®]	264,000	
	Cetaphil [®]	219,000	
	Aveeno [®]	179,000	
	Hytone [®]	102,000	
	Cream/lotion/emollient, unspecified	98,000	
	Soap, unspecified	67,000	
	Aquaphor [®]	67,000	
	Keri [®]	53,000	
	Salicylic acid	40,000	
Contact dermatitis	Chemicals	Hytone [®]	87,000
		Hydrocortisone	42,000
		Cetaphil [®]	34,000
	Plants	Hydrocortisone	263,000
		Calamine lotion	186,000
		Aveeno [®]	149,000
		Burow's solution	92,000
		Phisodex [®]	63,000
		Cortisone	51,000
		Cetaphil [®]	28,000
		Hytone [®]	22,000
	Caladryl [®]	19,000	
	Solar radiation	Sunscreen	177,000
		DML [™]	42,000
		Aquaphor [®]	38,000
		Calamine lotion	36,000
		Salicylic acid	19,000
		Hydrocortisone	18,000
		Cetaphil [®]	12,000

Table 7. (continued)

Diagnoses	OTC Topical Recommendations	Estimated Frequency
Unspecified cause	Hydrocortisone	1,989,000
	Hytone [®]	563,000
	Cortaid [®]	412,000
	Eucerin [®]	393,000
	Cortisone	368,000
	Cream/lotion/emollient, unspecified	362,000
	Cetaphil [®]	314,000
	Aveeno [®]	286,000
	Aquaphor [®]	157,000
	Calamine	149,000
Rosacea	Hydrocortisone	215,000
	Sunscreen	150,000
	Hytone [®]	103,000
	Cetaphil [®]	45,000
	Aveeno [®]	41,000
	DML [™]	35,000
	Hydrocort [®]	30,000
	FS [®] Shampoo	27,000
	Benzoyl peroxide	26,000
	Bacitracin [®]	20,000
Psoriasis	Hydrocortisone	470,000
	FS [®] Shampoo	104,000
	T/Gel [®] Shampoo	69,000
	Cream/lotion/emollient, unspecified	66,000
	Hytone [®]	61,000
	Aquaphor [®]	55,000
	Selsun [®]	49,000
	Carmol [®]	49,000
	Drysol [®]	44,000
	Tarsum [®]	39,000
Pityriasis rosea	Aveeno [®]	48,000
	Polysporin [®]	16,000
	Hydrocortisone	8,000
	Benzoyl peroxide	4,000
Lichen planus	Hydrocortisone	21,000
	Mediplast [®] Plasters	20,000
	Tar preparation shampoo	18,000
	Cetaphil [®]	4,000
	Phisodex [®]	4,000
Actinic keratosis	Sunscreen	419,000
	Polysporin [®]	243,000
	Hydrocortisone	195,000

Table 7. (continued)

Diagnoses	OTC Topical Recommendations	Estimated Frequency	
Actinic keratosis (continued)	Cream/lotion/emollient, unspecified	128,000	
	Bacitracin [®]	101,000	
	Oxy Wash [®]	83,000	
	DML [™]	59,000	
	Aquaphor [®]	41,000	
	Cortisone	34,000	
	Tar preparation shampoo	34,000	
Seborrheic keratosis	Polysporin [®]	151,000	
	Bacitracin [®]	116,000	
	Sunscreen	91,000	
	Eucerin [®]	36,000	
	Hydrocortisone	35,000	
	Head & Shoulders [®]	34,000	
	Hytone [®]	34,000	
	Menthol	33,000	
	Basis [®] Soap	28,000	
	Lotrimin [®]	28,000	
Acne	Benzoyl peroxide	921,000	
	Hydrocortisone	283,000	
	DML [™]	224,000	
	Soap, unspecified	216,000	
	Sunscreen	194,000	
	Cetaphil [®]	165,000	
	Cream/lotion/emollient, unspecified	139,000	
	Cortisone	122,000	
	Neutrogena [®]	112,000	
	Nutracort [®]	85,000	
Dermatophytoses	Scalp/beard	Selsun [®]	267,000
		Hydrocortisone	114,000
		Lotrimin [®]	93,000
	Nail	Cortisporin [®]	63,000
		Hydrocortisone	96,000
		Neosporin [®]	35,000
		Castellani's paint	20,000
		Selenium sulfide shampoo	14,000
	Groin/perianal	Lotrimin [®]	7,000
		Hydrocortisone	94,000
		Micatin [®]	61,000
	Foot	Tinactin [®]	49,000
		Selsun [®]	56,000
Benzyl benzoate		29,000	
Hydrocortisone		24,000	
	Hytone [®]	15,000	

Table 7. (continued)

Diagnoses	OTC Topical Recommendations	Estimated Frequency
Foot (continued) Body	Desenex [®]	9,000
	Monistat [®] -derm	143,000
	Hydrocortisone	115,000
	Clotrimazole	105,000
	Phisodex [®]	78,000
	Selsun [®]	70,000
	Desitin [®]	58,000
	Lotrimin [®]	56,000
Pityriasis versicolor	Selsun [®]	94,000
	Hydrocortisone	49,000
	Benzoyl peroxide	28,000
	Moisturel [®]	25,000
	Exsel [®] lotion	24,000
	Selenium sulfide shampoo	23,000
	Antifungal agent	13,000
Candidiasis, skin and nails	Hydrocortisone	50,000
	Clotrimazole	37,000
	Balnetar [®]	29,000
	Cetaphil [®]	29,000
	Lotrimin [®]	28,000

*OTC indicates over-the-counter.

products in the ambulatory care setting in the United States. In many cases, OTC topical preparations are used as complementary treatment modalities (Table 7). It is interesting that of the primary care physicians, internal medicine physicians recommend the fewest OTC topical skin products, and they are also the least familiar with skin disease.²² It may be that greater familiarity with skin disease and its treatment leads to greater use of complementary OTC preparations, perhaps because physicians who are more familiar with skin disease and its treatment may be more likely to perceive these products as safe and effective and thus may be more likely to recommend them to their patients.²

Persons older than 65 years are reported to account for 30% to 40% of all OTC product consumption,²³ with as many using nonprescription drugs as prescription drugs.²⁴ OTC topical skin products also are commonly recommended for older adults, but we found this age group accounts for less than 20% of OTC product use. The observed

difference may be a function of differences in analysis. Our study did not include assessment of all usage of OTC topical agents, only those that were recommended by the physician as part of the treatment plan. Physicians recommended more OTC topical skin products to female patients (57.4%) than to male patients (42.6%), though men received a higher proportion of OTC recommendations than did women (OTC/Rx=0.33 and 0.31, respectively). These findings are consistent with other studies of OTC drug use² and with women's greater use of medical services in general.

Physician specialty was significantly related to physician OTC topical skin product recommendations. Large variations existed between specialties, as demonstrated by a range in the proportion of OTC-to-prescription recommendations for topical skin products—from 58% in pediatrics to 0% in neurology and psychiatry. For most physician specialties, the proportion of OTC-to-prescription recommendations for topical skin products was

approximately 25% to 30%. Dermatologists and primary care physicians accounted for the vast majority of OTC topical skin product recommendations. The high frequency at which dermatologists recommended OTC product use suggested that dermatologists regard OTC topical products as an important component of skin disease management.

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