

Use of primary care services among patients with chronic skin disease seen by dermatologists



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Background: Skin diseases, such as psoriasis, hidradenitis suppurativa, acne, and alopecia areata, have increasingly been linked to systemic and mental health comorbidities, such as depression. Although identification and management of these comorbidities is typically a part of primary care, some patients might not have an established relationship with a primary care provider and may only be seeing their dermatologist.

Objective: To examine the frequency with which dermatologists are the main contact within a health care system for patients with these chronic skin conditions.

Methods: We performed a retrospective cohort study using Optum's deidentified Clinformatics Data Mart Database. The primary outcome was the proportion of patients who established care with a dermatologist and had no encounters with a primary care provider during the subsequent year after this dermatology encounter.

Results: Across each of the skin diseases evaluated, 21.6%-31.2% of men and 16.9%-26.2% of women had no primary care visits in the subsequent year after establishing care with their dermatologist.

Conclusion and Relevance: For many patients with chronic skin diseases, their dermatologist might be their only source of contact with the health care system. There may be an opportunity for dermatologists to improve the quality of care for our patients by screening for associated comorbidities. (JAAD Int 2021;2:31-6.)

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Conflicts of interest: Dr Mostaghimi receives consulting fees from Pfizer, HIMS, and 3derm. He has equity in Lucid and HIMS and receives licensing fees from Pfizer. He is on the medical advisory board for HIMS. He is a clinical trial investigator for Incyte, Lilly, Aclaris, and Concert. Dr Gelfand served as a consultant for BMS, Boehringer Ingelheim, Janssen Biologics, Novartis Corp, UCB (DSMB), Neuroderm (DSMB), Pfizer Inc., and

Sun Pharma, receiving honoraria; receives research grants (to the Trustees of the University of Pennsylvania) from Abbvie, Boehringer Ingelheim, Janssen, Novartis, Celgene, Ortho Dermatologics, and Pfizer Inc.; and received payment for continuing medical education work related to psoriasis, which was supported indirectly by Lilly, Ortho Dermatologics, and Novartis. Dr Gelfand is a copatent holder of resiquimod for the treatment of cutaneous T-cell lymphoma. Dr Gelfand is a Deputy Editor for the Journal of Investigative Dermatology, receiving honoraria from the Society for Investigative Dermatology. Drs Barbieri, Noe, and Margolis have no conflicts of interest to declare.

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INTRODUCTION

Chronic inflammatory and autoimmune skin diseases have increasingly been linked to systemic and mental health comorbidities. Patients with psoriasis and hidradenitis suppurativa have increased the prevalence of cardiovascular risk factors, myocardial infarction, and mortality.¹⁻⁶ In addition, patients with psoriasis, acne, hidradenitis suppurativa, and alopecia areata are at an increased risk of mental health comorbidities, such as anxiety, depression, and suicidality.⁷⁻¹⁰

While management of these comorbidities is often done by primary care providers, for some patients, their dermatologist may be their only point of contact with the health care system. Between 2008 and 2016, visits to primary care providers among commercially insured individuals declined by 24%, with only 54% of adults seeing a primary care provider in 2016.¹¹ As a result, many patients might only be seeing their dermatologist for their care. The purpose of this study was to examine the frequency with which dermatologists are the main contact within the health care system for patients with chronic inflammatory or autoimmune skin conditions.

METHODS

Data source

This study was a retrospective cohort study using the Optum deidentified Clinformatics Data Mart Database, which includes deidentified commercial claims data for approximately 12-14 million individuals annually in the United States. The patient population available in this database is similar to the demographics of the United States population with respect to sex, age, and geographic distribution.¹² These data include both medical and pharmacy claims, as well as patient demographic information, such as age and sex. This study was deemed exempt by the institutional review board of the University of

CAPSULE SUMMARY

- Among patients seeing a dermatologist for psoriasis, hidradenitis suppurativa, acne, and alopecia areata, 16.9%-31.2% had no primary care provider visits within the next year.
- For many patients, their dermatologist might be their main contact with the health system, and dermatologists may have a role in screening for relevant comorbidities.

Pennsylvania as it involved deidentified data. This study was reported in adherence with the STrengthening the Reporting of OBServational studies in Epidemiology guidelines.¹³

Study population

The study inclusion criteria were as follows: (1) at least 1 encounter with an International Classification of Diseases-10 code for the diagnosis of interest with a dermatologist, with the first

dermatology encounter associated with this diagnosis defined as the index date; (2) at least 6 months of continuous enrollment prior to the index date; (3) at least 12 months of continuous enrollment after the index date.

We chose to focus on psoriasis, hidradenitis suppurativa, acne, and alopecia areata as they are (1) common dermatologic conditions, (2) associated with important systemic and mental health comorbidities, and (3) their identification in large databases using International Classification of Disease codes has been previously validated.¹⁴⁻¹⁶ Provider specialty was classified using provider taxonomy codes associated with the clinical encounter claims. The primary care specialties were defined as pediatrics, internal medicine, and family medicine. Encounters between January 1, 2016, and June 30, 2019, were eligible for inclusion in the study.

Outcomes and statistical analysis

Outcomes were evaluated during 1 year of follow-up after the index date. The primary outcome was the proportion of patients with no encounters with a primary care provider within 1 year of the index date (first encounter with their dermatologist). The secondary outcomes included the proportion of patients with only dermatology encounters within 1 year of the index date (ie, no outpatient claims for any encounter with any other provider type besides a dermatologist—regardless of whether this

provider was a primary care provider, specialist, or other health care professional).

Since age and sex may be associated with the likelihood of interacting with health care providers, we conducted stratified analyses by age and sex. In addition, to account for patients who might have been referred by a primary care provider to their dermatologist, we conducted a sensitivity analysis in which we varied our primary outcome definition to additionally include the 6 months prior to the index date as well as the first year of follow-up after the index date. To account for patients who might only see their primary care provider every few years, we also conducted a sensitivity analysis in which we varied our primary outcome definition to include the first 2 years of follow-up after the index date (additionally adjusting our inclusion criteria to include those with at least 24 months of continuous follow-up after the index date). Statistical analyses were performed using Stata 15 (StataCorp).

RESULTS

There were 71,857, 5407, 238,647, and 10,904 patients with psoriasis, hidradenitis suppurativa, acne, and alopecia areata identified, respectively. For psoriasis, hidradenitis suppurativa, acne, and alopecia areata, 53.3%, 76.7%, 68.3%, and 62.5%, respectively, were female. The mean age was 56.4, 40.3, 30.5 and 43.9 years, respectively, at the time of the index date (first encounter with their dermatologist) (Table I).

The men (21.6%) and women (16.9%) with psoriasis had no encounters with a primary care provider within a year of the index encounter with their dermatologist as compared to 28.1% of men and 22.0% of women with hidradenitis suppurativa, 27.1% of men and 26.2% of women with acne, and 31.2% of men and 19.2% of women with alopecia areata. In general, young adult patients (21-40 years old) and men were more likely to have no encounters with a primary care provider (Table II).

Across each of the skin diseases evaluated, 9.4%-15.8% of men and 4.1%-6.8% of women had encounters only with a dermatologist (ie, no outpatient encounters with any other providers, including other specialists). In general, young adult patients (21-40 years old) and men were more likely to have encounters with only a dermatologist (Table III).

In the sensitivity analyses in which we additionally included the 6 months prior to the index date as well as the first year after the index date, 15.2%-21.9% of men and 11.4%-18.9% of women did not have any encounters with a primary care provider (Table IV). In the sensitivity analyses in which we evaluated the

outcomes during the first 2 years after the index date, 12.3%-18.7% of men and 8.7%-14.3% of women did not have any encounters with a primary care provider (Table V).

DISCUSSION

In this study, we found that a substantial proportion of patients seen for chronic inflammatory and autoimmune skin diseases, such as psoriasis, hidradenitis suppurativa, acne, and alopecia areata, interact solely with their dermatologist in the absence of a close relationship with a primary care provider. These findings are consistent with those of a prior study identifying that primary care visits are becoming less common, and nearly one-half of commercially insured adults have no primary care visits in any given year.¹¹

Since each interaction with the health care system is an opportunity to improve the overall health of the patient, these results have important implications on the role of dermatologists in the care of patients with chronic inflammatory and autoimmune skin disease. If dermatologists are the main point of contact with the health care system for a patient, there is an opportunity for dermatologists to not only treat the patients' skin disease but also play a role in the identification of relevant comorbidities and screening or referral for common health issues. In several other settings (eg, dental clinics and barber shops), screening for common health problems outside the primary care office has been shown to improve outcomes.¹⁷⁻¹⁹

Given that nearly one-third of all dermatology patients experience some form of mental health disorder, there is an opportunity for dermatologists to incorporate routine screening into clinical practice.²⁰ However, depression screening is infrequently performed during visits for skin diseases, such as acne and psoriasis, that are commonly associated with mental health comorbidities.^{21,22} Implementing simple and quick screening using tools, such as the patient reported outcomes measurement information system depression bank or physicians health questionnaire-2, with associated workflows for appropriate referral to mental health care providers has been successful in a general dermatology population.²³

Similarly, dermatologists may have a role in screening for cardiovascular risk factors among patients with psoriasis. Despite substantial scientific evidence and consensus guidelines indicating that statins reduce cardiovascular events and mortality, only 30% of individuals for whom statins are recommended for primary prevention are taking them.²⁴ Among those with psoriasis, only 24% of eligible

Table I. Patient characteristics

	Psoriasis	Hidradenitis suppurativa	Acne	Alopecia areata
Female, n (%)	38,300 (53.3)	4147 (76.7)	162,996 (68.3)	6815 (62.5)
Age, mean (SD)	56.4 (18.0)	40.3 (16.3)	30.5 (17.4)	43.9 (19.8)
<20 years, n (%)	2774 (3.9)	633 (11.7)	99,063 (41.5)	1468 (13.5)
21-30 years, n (%)	4105 (5.7)	1049 (19.4)	46,199 (19.4)	1397 (12.8)
31-40 years, n (%)	7907 (11.0)	1296 (24.0)	35,812 (15.0)	2090 (19.2)
41-50 years, n (%)	10,137 (14.1)	931 (17.2)	23,674 (9.9)	1864 (17.1)
>50 years, n (%)	46,905 (65.3)	1501 (27.7)	33,782 (14.2)	4088 (37.5)

SD, Standard deviation.

Table II. Proportion of patients with no primary care visits within 12 months of their initial dermatology encounter

	Patients with no primary care visits, n (%)							
	Psoriasis		Hidradenitis suppurativa		Acne		Alopecia areata	
	Male	Female	Male	Female	Male	Female	Male	Female
Overall	7236 (21.6)	6469 (16.9)	355 (28.1)	912 (22.0)	20,485 (27.1)	42,742 (26.2)	1277 (31.2)	1308 (19.2)
<20 years	243 (20.5)	293 (18.4)	31 (27.7)	127 (24.4)	10,163 (23.8)	11,713 (20.8)	105 (16.3)	115 (14.0)
21-30 years	934 (48.3)	830 (38.2)	95 (41.5)	263 (32.1)	5294 (45.5)	13,382 (38.7)	372 (49.1)	240 (37.5)
31-40 years	1598 (40.5)	1320 (33.3)	114 (38.1)	268 (26.9)	2553 (37.3)	9551 (33.0)	421 (39.1)	310 (30.6)
41-50 years	1589 (31.3)	1313 (26.0)	65 (30.2)	142 (19.8)	1246 (27.9)	5027 (26.2)	237 (32.6)	274 (24.1)
>50 years	2872 (13.4)	2713 (10.6)	50 (12.3)	112 (10.3)	1229 (12.4)	3069 (12.9)	142 (16.1)	369 (11.5)

Table III. Proportion of patients with only dermatology visits within 12 months of their initial dermatology encounter

	Patients with only dermatology visits, n (%)							
	Psoriasis		Hidradenitis suppurativa		Acne		Alopecia areata	
	Male	Female	Male	Female	Male	Female	Male	Female
Overall	3158 (9.4)	1554 (4.1)	148 (11.7)	223 (5.4)	10,384 (13.8)	11,011 (6.8)	647 (15.8)	299 (4.4)
<20 years	143 (12.1)	122 (7.7)	13 (11.6)	56 (10.8)	5524 (13.0)	4864 (8.6)	59 (9.2)	54 (6.6)
21-30 years	531 (27.5)	185 (8.5)	49 (21.4)	56 (6.8)	2860 (24.6)	3166 (9.2)	229 (30.3)	49 (7.7)
31-40 years	791 (20.0)	281 (7.1)	45 (15.1)	53 (5.3)	1161 (17.0)	1599 (5.5)	213 (19.8)	60 (5.9)
41-50 years	755 (14.9)	326 (6.5)	26 (12.1)	33 (4.6)	485 (10.9)	902 (4.7)	106 (14.6)	61 (5.4)
>50 years	938 (4.4)	640 (2.5)	15 (3.7)	25 (2.3)	354 (3.6)	480 (2.0)	40 (4.5)	75 (2.3)

patients are taking statins.²⁵ Statins are safe and easy to prescribe, and no laboratory safety monitoring is required. The American Heart Association/American College of Cardiology recommends that patients with risk enhancers (ie, psoriasis) be considered for statins if they have a borderline risk (5%-7.5% 10-year risk) or higher.²⁶ Dermatologists are already checking routine blood work prior to starting systemic medications for psoriasis; adding a lipid panel (non-fasting) could enable the screening for additional cardiovascular risk factors; those with an estimated 10-year risk of greater than 5% could be referred to their primary care provider or cardiology or offered a statin if their dermatologist feels comfortable

prescribing it. As a result, there may be an opportunity for dermatologists to screen and potentially even comanage cardiovascular risks in this high-risk population.

Since many systemic treatments prescribed for inflammatory and autoimmune skin diseases can increase patients' risk for infection, dermatologists also have an important opportunity to mitigate this risk. Adults with psoriasis are less likely to receive the flu vaccine than those with hypertension or rheumatoid arthritis.²⁷ This difference is even greater among younger individuals, who we identified as being most likely to have no encounters with primary care providers. There is an opportunity for dermatologists

Table IV. Sensitivity analysis: Proportion of patients with no primary care visits within 6 months before and 12 months after their initial dermatology encounter

	Patients with no primary care visits, n (%)							
	Psoriasis		Hidradenitis suppurativa		Acne		Alopecia areata	
	Male	Female	Male	Female	Male	Female	Male	Female
Overall	5109 (15.2)	4383 (11.4)	231 (18.3)	561 (13.5)	14,654 (19.4)	30,860 (18.9)	895 (21.9)	843 (12.4)
<20 years	144 (12.2)	161 (10.1)	15 (13.4)	68 (13.1)	6788 (15.9)	7689 (13.6)	61 (9.5)	65 (7.9)
21-30 years	730 (37.8)	622 (28.7)	70 (30.6)	178 (21.7)	4160 (35.7)	10,248 (29.7)	265 (35.0)	171 (26.7)
31-40 years	1196 (30.3)	947 (23.9)	76 (25.4)	172 (17.3)	1936 (28.3)	7175 (24.8)	310 (28.8)	205 (20.2)
41-50 years	1144 (22.5)	934 (18.5)	44 (20.5)	85 (11.9)	936 (21.0)	3709 (19.3)	169 (23.2)	176 (15.5)
>50 years	1895 (8.9)	1719 (6.7)	26 (6.4)	58 (5.3)	834 (8.4)	2039 (8.6)	90 (10.2)	226 (7.1)

To account for patients who might have been referred by a primary care provider to their dermatologist, we conducted a sensitivity analysis in which we varied our primary outcome definition to additionally include the 6 months prior to the index date as well as the first year of follow-up after the index date.

Table V. Sensitivity analysis: Proportion of patients with no primary care visits within 2 years of their initial dermatology encounter

	Patients with no primary care visits, n (%)							
	Psoriasis (n = 42,324)		Hidradenitis suppurativa (n = 2661)		Acne (n = 129,325)		Alopecia areata (n = 5561)	
	Male	Female	Male	Female	Male	Female	Male	Female
Overall	2452 (12.3)	1936 (8.7)	99 (16.1)	242 (11.8)	6516 (15.7)	12,522 (14.3)	384 (18.7)	362 (10.3)
<20 years	73 (11.7)	72 (8.2)	6 (11.8)	33 (13.4)	3289 (13.3)	3316 (10.2)	24 (7.1)	38 (9.0)
21-30 years	306 (30.8)	237 (23.4)	30 (29.1)	58 (16.0)	1707 (28.9)	3966 (23.8)	101 (31.9)	64 (24.4)
31-40 years	548 (24.7)	386 (18.6)	36 (25.2)	77 (15.4)	815 (22.9)	2838 (18.5)	136 (25.3)	94 (19.9)
41-50 years	539 (18.2)	411 (14.2)	18 (16.5)	48 (12.9)	379 (16.0)	1587 (14.8)	76 (19.2)	80 (13.2)
>50 years	986 (7.5)	830 (5.4)	9 (4.3)	26 (4.6)	326 (6.5)	815 (6.5)	47 (10.2)	86 (4.9)

To account for patients who might only see their primary care provider every few years, we conducted a sensitivity analysis in which we varied our primary outcome definition to additionally include the 2 years of follow-up after the index date.

to counsel their patients about the value of recommended vaccinations and consider taking common vaccines, such as flu, pneumonia, and shingles vaccines, available in their clinic.²⁸

This study should be interpreted in the context of its design. Since we did not include primary care encounters prior to the first dermatology encounter or more than 1 year after this encounter, it is possible that we might underestimate the proportion of the patients with an established primary care provider. Our sensitivity analyses suggest that this is unlikely as the same trend holds for patients with no primary care visits within 6, 12, and 24 months of their dermatologist appointment. Although some patients might not see their primary care provider more often than every few years, waiting for >1 year to see a primary care provider to address important comorbidities, such as depression, cardiovascular risk, and vaccinations, could still increase the risk of poor outcomes.

Although we defined the primary care specialties as pediatrics, internal medicine, and family medicine, some patients might have well-established

relationships with other physicians whom they see regularly in a role similar to that of a primary care provider (eg, gynecologist). In addition, we were unable to assess whether the patients without primary care visits received less appropriate screening and management of the relevant comorbidities and associated outcomes than those who had primary care visits.

While for many patients, their dermatologist is the main source of contact with the health care system, there is a need to identify the optimal role of dermatologists in the screening and management of comorbidities associated with chronic inflammatory and autoimmune skin diseases. Although dermatologists may be capable of complete treatment of these comorbidities in some scenarios, it will be important for them to establish interdisciplinary networks with other specialties to provide comprehensive management of these skin conditions. Given their key position in the management of chronic inflammatory and autoimmune skin diseases, dermatologists should embrace the opportunity to maximize the well-being of their patients.

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