Table II. Concomitant therapies, treatment frequency, and adverse events

Concomitant therapy*	During mechlorethamine gel treatment (N = 298)
Skin-directed therapies	124 (41.6)
Phototherapy	35 (11.7)
Radiotherapy	12 (4.0)
Topical	
Chemotherapy	2 (0.7)
Corticosteroids	70 (23.5)
Retinoids	10 (3.4)
Imiquimod	9 (3.0)
Other	21 (7.0)
Systemic therapies	48 (16.1)
Chemotherapy	11 (3.7)
Retinoids	30 (10.1)
HDAC inhibitors	6 (2.0)
Extracorporeal photopheresis	1 (0.3)
Other	19 (6.4)
Dosing frequency†	
Daily	222 (74.5)
5 times a week	30 (10.1)
Every 2 days	112 (37.6)
Every 3 days	49 (16.4)
Once a week	26 (8.7)
Less frequent (monthly, prn, unknown)	34 (11.4)
Patients with dosing interruption‡	87 (29.2)
Average duration of dosing interruption, d	9.7 (1.0, 84.0)
Adverse events	
At least 1 related adverse event reported	133 (44.6)
Dermatitis (all grades)	38 (12.8)
Mild	18 (6.0)
Moderate	14 (4.7)
Severe	6 (2.0)
Not assessed	4 (1.3)
Pruritus	29 (9.7)
Skin irritation	22 (7.4)
Erythema	15 (5.0)
Infections	12 (4.0)

HDAC, Histone deacetylase.

*Categorical data are presented as number (%) and continuous data as median (range).

†Percentages exceed 100% because patients could use a different number of tubes each month or have multiple dosing regimens over time, or both; patients with multiple records for dosing were counted in each relevant category.

‡Dosing interruption is defined as dosing that was stopped and restarted within 3 months.

consulted for Helsinn, Mallinckrodt, Transimmune, and Sanofi and received grant funding from Helsinn, Soligenix, and AbbVie. Dr Musiek has received grant funding and consulted for Helsinn, Elorac, Kyowa Kirin, Soligenix, and Pfizer; served on advisory board for Helsinn, Kyowa Kirin, and Seattle Genetics, and served on a speakers bureau for Helsinn. Mr Mink and Dr Williams are employed by ICON Commercialization & Outcomes. Dr Angello and Dr Bailey are employed by Helsinn Therapeutics (US), Inc.

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Relationship between sociodemographic factors and geographic distribution of pharmacies dispensing isotretinoin in Washington, DC

To the Editor: Prescription of isotretinoin, the standard treatment for severe acne, is regulated by the United States Food and Drug Administration iPLEDGE program, requiring registration by the patient, physician, and pharmacy. Studies demonstrate that iPLEDGE has promoted health care disparities: racial minorities and women are underprescribed isotretinoin and more likely to face delays in treatment.[1] One barrier to treatment is proximity to an iPLEDGE-participating pharmacy. This study analyzed the distribution of iPLEDGE pharmacies in the District of Columbia (DC) and its correlation with sociodemographic factors.

A list of non-iPLEDGE and iPLEDGE pharmacies in DC was obtained from DC.gov and iPLEDGE. Inpatient pharmacies were excluded. To confirm

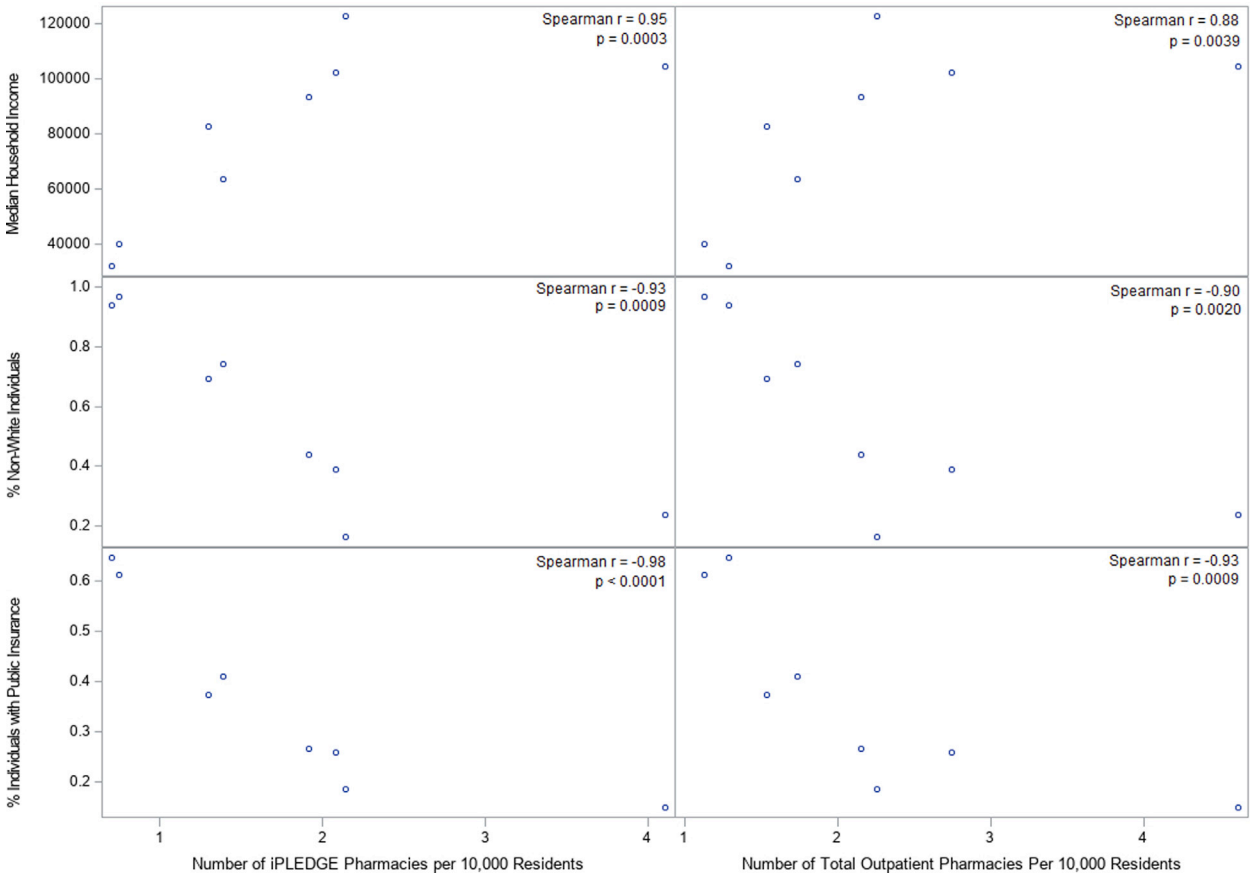

Fig 1. Correlations between pharmacy density and sociodemographic variables. **Top,** Median household income, **(Middle)** percentage of nonwhite individuals, and **(Bottom)** percentage of individuals with public insurance.

iPLEDGE registration status, all pharmacies were surveyed by telephone, and 146 of 149 pharmacies were successfully contacted. DC is geographically divided into 8 wards, and ward demographics were obtained from the 2013-2017 American Community Survey Estimates. Linear trends in iPLEDGE pharmacy density and sociodemographic characteristics were assessed using Spearman coefficients (Fig 1). Correlations were considered statistically significant at $P < .05$.

We found 82% of outpatient pharmacies were enrolled in iPLEDGE. All chain pharmacies, 46% of independent pharmacies, and 60% of hospital pharmacies were enrolled. Eleven iPLEDGE pharmacies were not recorded on the iPLEDGE website. iPLEDGE has previously been shown to report discordant patient data, and our data provide evidence for discordant pharmacy data as well.[2]

The spatial heterogeneity in the distribution of iPLEDGE pharmacies and total outpatient pharmacies is depicted in Fig 2. There is a strong positive correlation between iPLEDGE pharmacy density and median household income ($r = 0.95$). Further, iPLEDGE pharmacy density has a strong negative correlation with the percentage of individuals with public insurance ($r = -0.98$) and percentage of nonwhite individuals ($r = -0.93$). Correlation between iPLEDGE pharmacy per square mile and ward population per square mile was not significant.

Studies have identified low pharmacy density in areas with greater minority population.[3] Pharmacies in low-income communities often provide fewer services, such as home delivery, and access to opioid analgesics and contraceptives.[3,4] Wards with lower income contained fewer pharmacies and more independent than chain pharmacies. Access to dermatologists is already limited in impoverished communities, and lack of access to iPLEDGE pharmacies may further exacerbate acne treatment.[5]

Although this study could not assess the effect of geographic access to isotretinoin and medical compliance, we hypothesize that greater distance from a pharmacy is a significant barrier to treatment. Residents of low-income communities have to travel

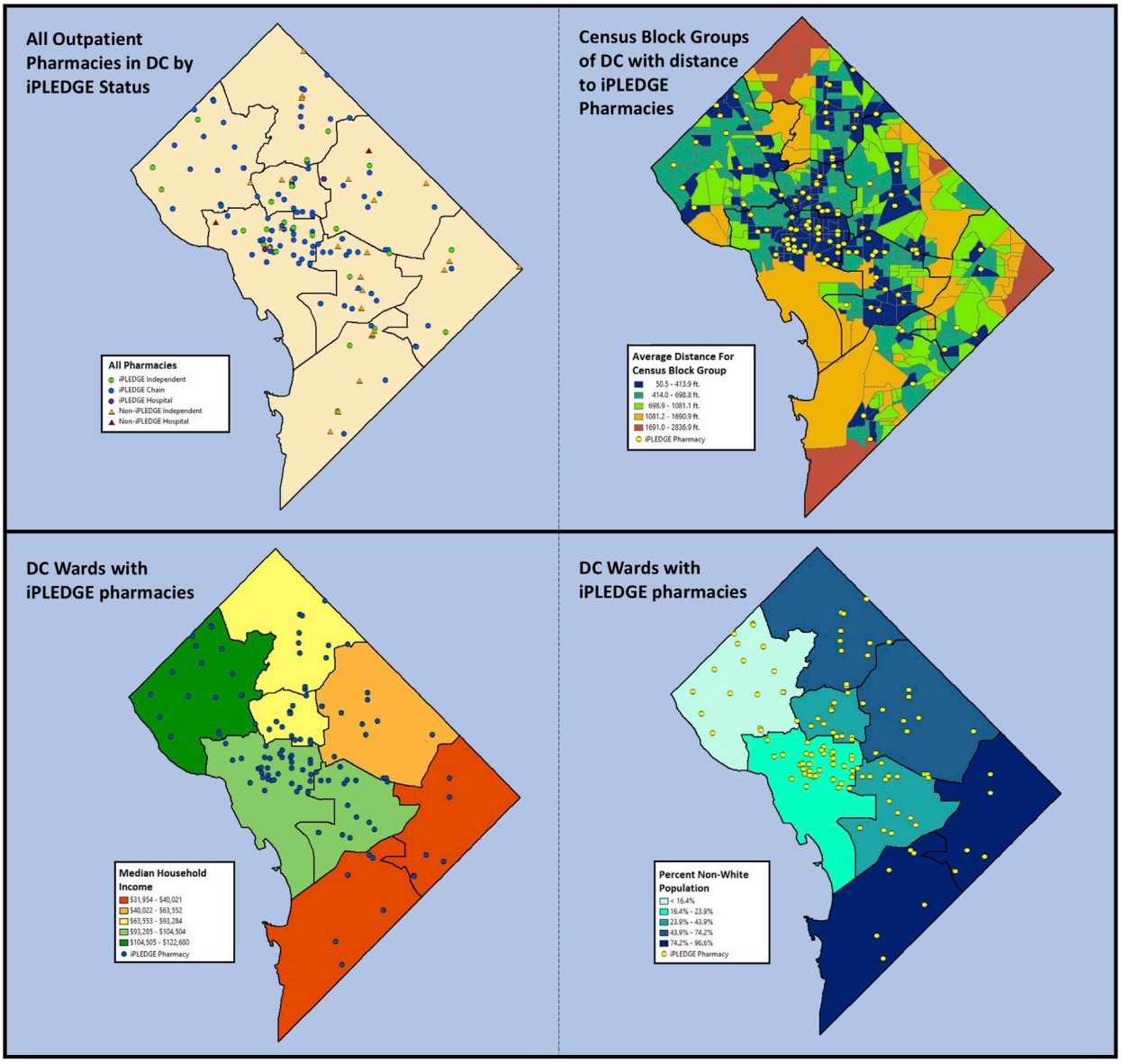

Fig 2. Pharmacy locations by ward and ward demographics. The address associated with each record was geocoded using ArcMap 10.2.2 (Esri, Redlands, CA). The average distance to an iPLEDGE pharmacy was calculated from the geometric center of Census Block Groups 2010. Sociodemographic factors were categorized by the Geographic Information System software (Esri) using Jenks natural breaks classification to summarize measures that fell within each ward.

further to access an iPLEDGE pharmacy, thereby incurring additional costs and hindering timely access to isotretinoin. This is a particular barrier to women, who have a 7-day window to collect their medication after a pregnancy test is recorded in iPLEDGE. Although our results are limited to DC and may not be generalizable to the entire country, we predict that cities with similar income inequality as DC also have similar iPLEDGE pharmacy distribution.

The unequal geographic distribution of iPLEDGE pharmacies and the restricted window period are important patient barriers to timely obtain isotretinoin. Future studies should examine the relationship between pharmacy distribution, isotretinoin needs in the community, and medication adherence.

Morgan Byrne, MPH, The George Washington University, assisted in the statistical analysis.

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Determining patient understanding of commonly used dermatology terms: A multicenter cross-sectional survey

To the Editor: Disparities in health literacy are associated with poorer use of health care services and worse health outcomes.[1] This is in part due to providers incorrectly assessing patient comprehension of technical jargon.[2] Because treatment outcomes are influenced by whether patients understand their diagnosis and treatment instructions, it would be helpful for providers to be more informed about their patients' understanding of basic dermatology terms. We sought to compare patients' confidence in frequently used dermatology terms versus the accuracy of their understanding.

This institutional review board-approved, single-blinded, multicenter survey was conducted with patients 18 years and older recruited from academic dermatology clinics. Participants completed an in-person survey of 11 dermatology terms that are frequently used during patient care. Each term was presented along with a sentence using the term in context (see Supplementary Material; available via Mendeley at https://doi.org/10.17632/sx6kn3dx8p.1 and https://doi.org/10.17632/tfs9bm98pm.1). Participants rated their level of confidence in understanding each term using a 5-point Likert-type scale (perceived understanding) and then defined the term using their own words. Two blinded physicians graded these definitions using a 5-point scale (accuracy of understanding). Student t tests, chi-square tests, and Pearson coefficients were used to identify associations between perception and accuracy of understanding ($P < .05$ considered statistically significant). Median and Fisher exact tests were substituted when parametric assumptions could not be verified.

A total of 313 respondents completed the survey (85% response rate) (Table I). The average term perceived understanding was 3.7 ± 1.2 out of 5. The average term accuracy was 3.8 ± 1.4 out of 5 (reviewer concordance, 93.2%). Women were more confident (4.0 ± 1.2 vs 3.5 ± 1.2) and had higher accuracy than men ($P < .01$) (Table I). Definition accuracy was positively associated with education level ($P < .001$) and previous experience in the medical field ($P < .0001$). Age was not associated with perception ($r = .03$, $P = .65$) or accuracy ($r = -0.07$, $P = .23$). Patients reported being *not confident* or *not at all confident* in a term in 20.1% of instances; 75.6% of patients reported being *not confident* or *not at all confident* in a term at least 1 time during the survey. In comparison, an accuracy of 1 or 2 out of 5 was reported in 24.2% of cases (Table I).

Patients had a higher perceived understanding than graded accuracy (overestimation) in 20.5% of cases (Table I). This overestimation increased with higher education levels (24.4% with graduate degrees vs 17.9% with high school diplomas) and previous medical experience (25.7% vs 19.6% without previous experience) (Table I). Patients confident in their understanding (reporting values of 4 or 5) overestimated at even higher rates (21.7% of overall instances) (Table I). White patients overestimated more frequently than black patients (24.9% vs 15.9% overall, Table I). Patients were least confident and accurate about the terms *pathology* and *metastasis* (Table II).