

Social Determinants of Health of Patients Living with Hidradenitis Suppurativa in Rural Versus Urban United States

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Objective

To characterize the demographics, treatment patterns, and access to care among patients living with hidradenitis suppurativa (HS) in rural vs. urban United States (US).

Synopsis

- HS is a chronic, inflammatory skin disease that is characterized by the presence of lesions, abscesses, and tunnels.¹
- HS often requires lifelong disease management and treatment.²
- Differences are seen in healthcare resource utilization (HCRU) and access to care, including dermatology, by geographic location and other social determinants of health.^{1,3}

Methods

- This retrospective longitudinal analysis was conducted using STATinMED Real-World Data Insights all-payer medical and pharmacy claims data from 01/01/2014–11/30/2024 (case identification period: 01/01/2015–11/30/2023; **Figure 1**).
- Eligible patients were aged ≥12 years, with ICD-9 or ICD-10-CM claims codes for either HS diagnosis, or HS symptoms without a diagnosis, plus continuous medical and pharmacy benefit enrollment for 12 months pre- and post-index date (uninterrupted medical coverage with medical and pharmacy benefits). Location (rural or urban) was assigned as of the index date using US Department of Agriculture RUCA codes. ZIP codes were linked to RUCA classifications, which define rural and urban areas based on population density, urbanization, and commuting patterns.
- Patients without an HS diagnosis had to have ≥2 visits 30 days to 12 months apart with related symptom claims (abscess, cyst, boil, furuncle, folliculitis).
- We report demographic variables, HCRU, and access to care, in patients living in rural vs. urban areas.
- Access to specialist dermatology care and treatment was compared between urban and rural residents using chi-squared tests.

Results

- In total, 1,763,183 eligible patients were included (**Figure 2**): 2.9% (n=51,030) were rural patients and 97% (1,712,153) were urban patients.
- Of all patients, 17% (n=297,982) had an HS diagnosis and 83% (n=1,465,201) had HS symptoms without a diagnosis. Among those with an HS diagnosis, 3.2% were rural patients (n=9,543) and among those with HS symptoms and no HS diagnosis, 2.8% were rural patients (n=41,487).
- Demographic characteristics are shown in **Table 1**. Mean age was similar for rural vs. urban (52 years vs. 51 years, p<0.001), and both the rural and urban patient groups were 59% female.
 - The largest proportions of each group were in the US South, White, and had commercial insurance.
 - The largest category of household income for both rural and urban patients was <\$25,000, comprising 58% of rural patients and 40% of urban patients.
- At baseline, rural patients showed substantially greater pain medication use than urban patients, both opioid (45% vs. 37%, p<0.001) and non-opioid (43% vs. 36%, p<0.001).
- During follow-up, use of biologic therapies (any indication) was low overall and similar between rural and urban patients (2.8% rural vs. 3.1% urban, p=0.139) among HS-diagnosed patients.

HCRU and access to care

- Significantly greater proportions of rural patients had outpatient hospital visits than urban patients for any cause (p<0.001, baseline and follow-up) or HS-related (p<0.001, baseline and follow-up; **Figure 3**). Rural patients also had significantly more all-cause outpatient hospital visits than urban patients (p<0.001, baseline and follow-up; **Table 2**).
- Significantly greater proportions of rural patients accessed primary care than urban patients during follow-up, with an HS diagnosis (87% vs. 76%, p<0.001) or with HS symptoms and no diagnosis (87% vs. 72%, p<0.001).
- Among those with an HS diagnosis, a significantly smaller proportion of rural patients had accessed specialty care from dermatologists during follow-up than urban patients (15% vs. 26%, p<0.001). A similar pattern was observed for symptomatic patients without an HS diagnosis (23% vs. 41%, p<0.001).
- Greater proportions of rural patients were diagnosed by primary care providers than specialty care providers, with the reverse for urban patients (**Figure 4**).

Conclusions

This real-world analysis reveals distinct differences in HCRU and access to care between urban and rural patients with either an HS diagnosis, or HS symptoms without a diagnosis.

Rural patients demonstrated less access to dermatology specialty care, and more often relied on outpatient hospital settings and primary care for general health and HS management.

These findings underscore the need for alternative care models in underserved areas. They also highlight the need for further investigation into the impact of delays in HS diagnosis, and real-world treatment patterns, on long-term outcomes in the context of geographic disparities in access to specialty care.

Summary

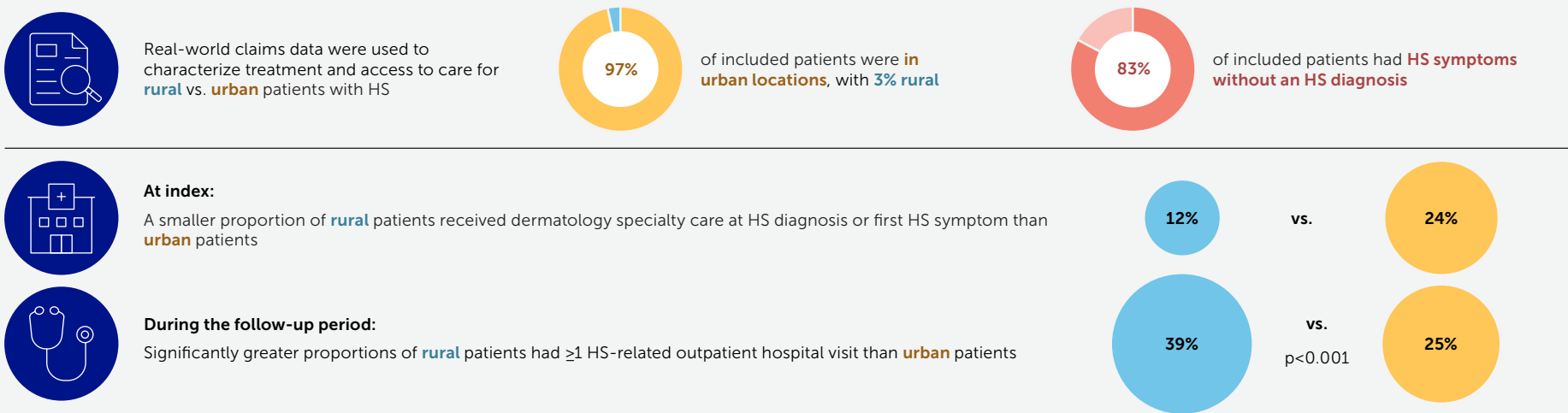


Figure 1 Study design

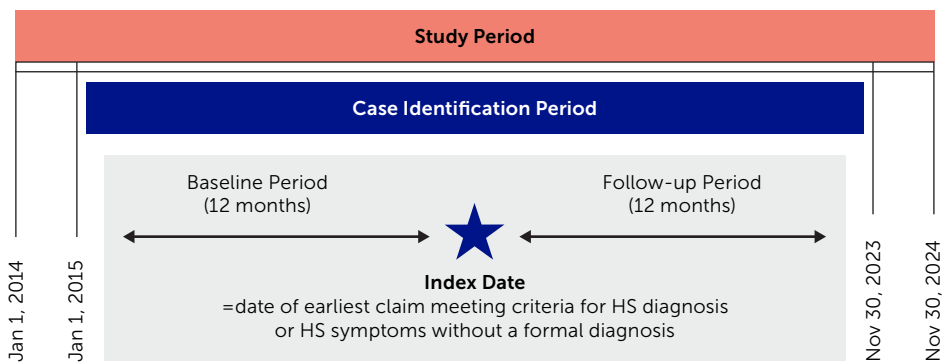


Figure 2 Study design

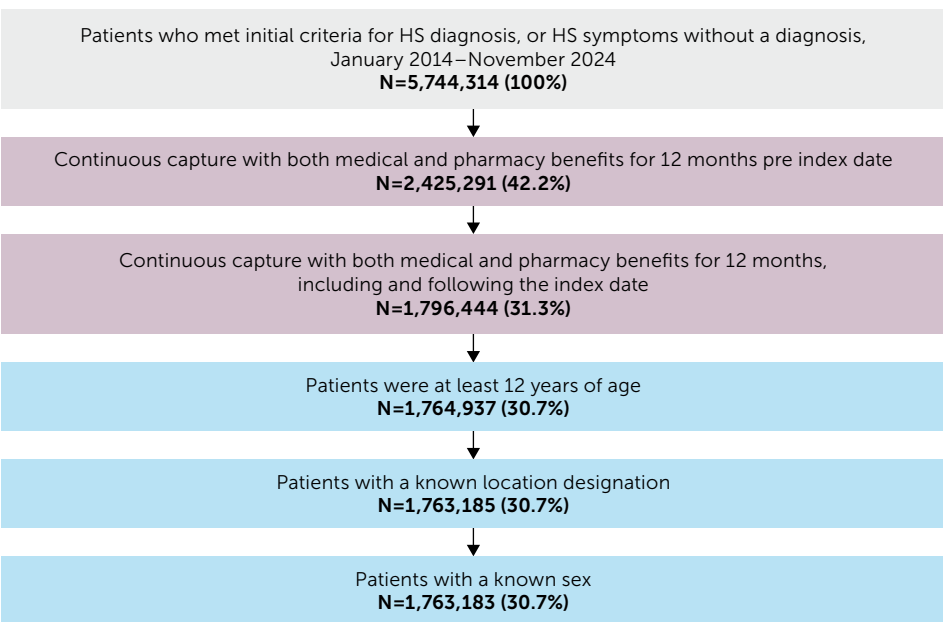


Table 1 Baseline demographic and disease characteristics overall and in urban and rural patients

n (%), unless otherwise specified	Overall (N=1,763,183)	Urban (N=1,712,153)	Rural (N=51,030)	p value, Urban vs. Rural
Age, mean (SD)	51 (18.4)	51 (18.4)	52 (18.6)	<0.001
Sex				
Male	715,106 (40.6)	694,334 (40.6)	20,772 (40.7)	0.493
Female	1,048,077 (59.4)	1,017,819 (59.4)	30,258 (59.3)	0.493
US Geographic Region				
Northeast	341,908 (19.4)	338,012 (19.7)	3,896 (7.6)	<0.001
North Central	398,133 (22.6)	380,296 (22.2)	17,837 (35.0)	<0.001
South	677,916 (38.4)	653,824 (38.2)	24,092 (47.2)	<0.001
West	345,226 (19.6)	340,021 (19.9)	5,205 (10.2)	<0.001
Payer Channel				
Commercial	684,577 (38.8)	668,163 (39.0)	16,414 (32.2)	<0.001
Medicare	481,290 (27.3)	465,320 (27.2)	15,970 (31.3)	<0.001
Medicaid	502,692 (28.5)	486,420 (28.4)	16,272 (31.9)	<0.001
Government/other	40,031 (2.3)	38,889 (2.3)	1,142 (2.2)	0.628
Dual eligible	54,593 (3.1)	53,361 (3.1)	1,232 (2.4)	<0.001
Race	N=1,273,857	N=1,239,667	N=34,190	
White	1,082,467 (85.0)	1,051,714 (84.8)	30,753 (89.9)	<0.001
Black	159,892 (12.6)	156,855 (12.7)	3,037 (8.9)	<0.001
Asian	27,918 (2.2)	27,658 (2.2)	260 (0.8)	<0.001
Other	3,580 (0.3)	3,440 (0.3)	140 (0.4)	<0.001
Ethnicity	N=1,144,724	N=1,114,647	N=30,077	
Hispanic	177,013 (15.5)	174,786 (15.7)	2,227 (7.4)	<0.001
Non-Hispanic	967,711 (84.5)	939,861 (84.3)	27,850 (92.6)	0.156

CM: clinical modification; HCRU: healthcare resource utilization; HS: hidradenitis suppurativa; ICD: International Classification of Diseases; IQR: interquartile range; LOS: length of stay; RUCA: Rural-Urban Commuting Area; SD: standard deviation; US: United States; ZIP: Zone Improvement Plan.

References: 'Kaya G et al. Front Med. 2025;11:1499509; 'Daveluy S et al. J Am Acad Dermatol. 2024;91(6S):S8–S11; 'Feng H et al. JAMA Dermatol. 2018;154(11):1265–71. **Author Contributions:** All authors had substantial contributions to the study conception/design or acquisition/analysis/interpretation of data, drafted the publication or reviewed it critically for important intellectual content, and approved the final publication. **Author Disclosures:** EA, GA, MA: Employees of STATinMED. CO, DS, PPM, JN: Employees and shareholders of UCB. **Acknowledgments:** This study was funded by UCB. The authors acknowledge Clare Wiberg, BS, of Costello Medical, Boston, MA, USA, and Lucy Berry, MBBS, CMPP, Joiney Medical Communications, Biggleswade, UK, for medical writing, and the Costello Medical Creative team for graphic design assistance. All costs associated with development of this poster were funded by UCB.

Figure 3 HCRU per patient per year: Proportion of patients with visit type

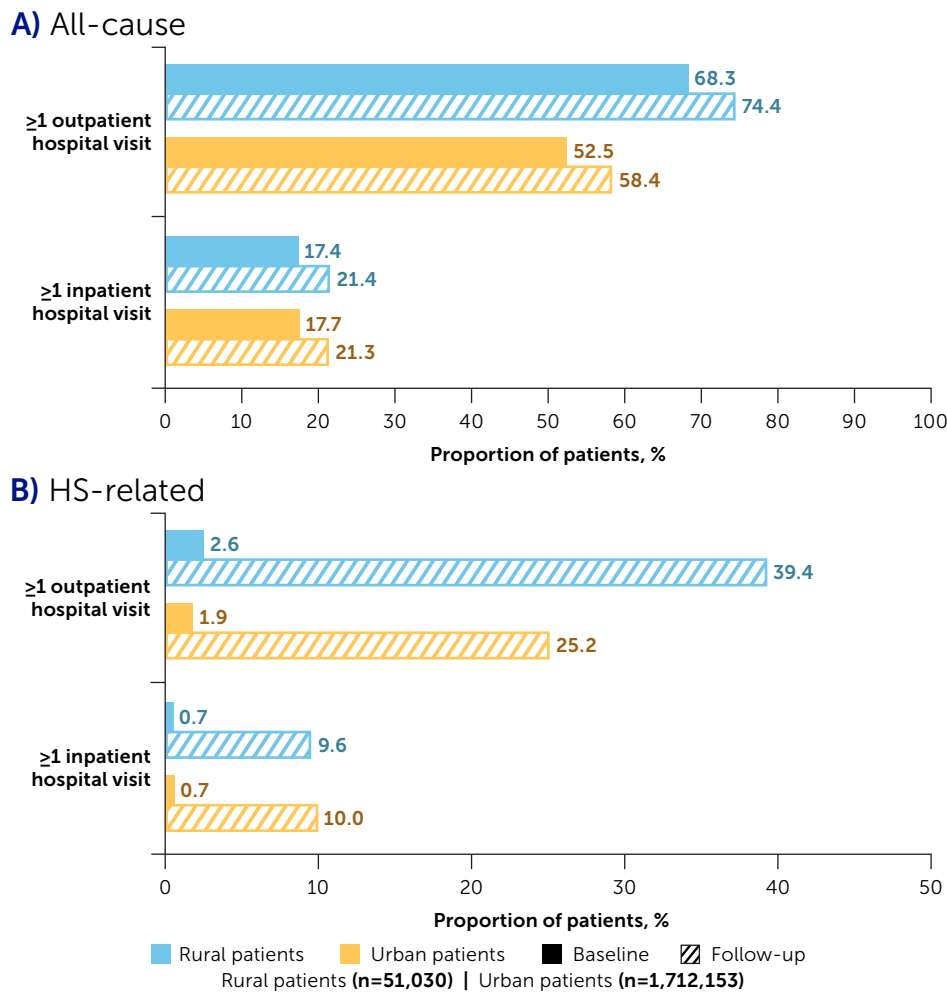
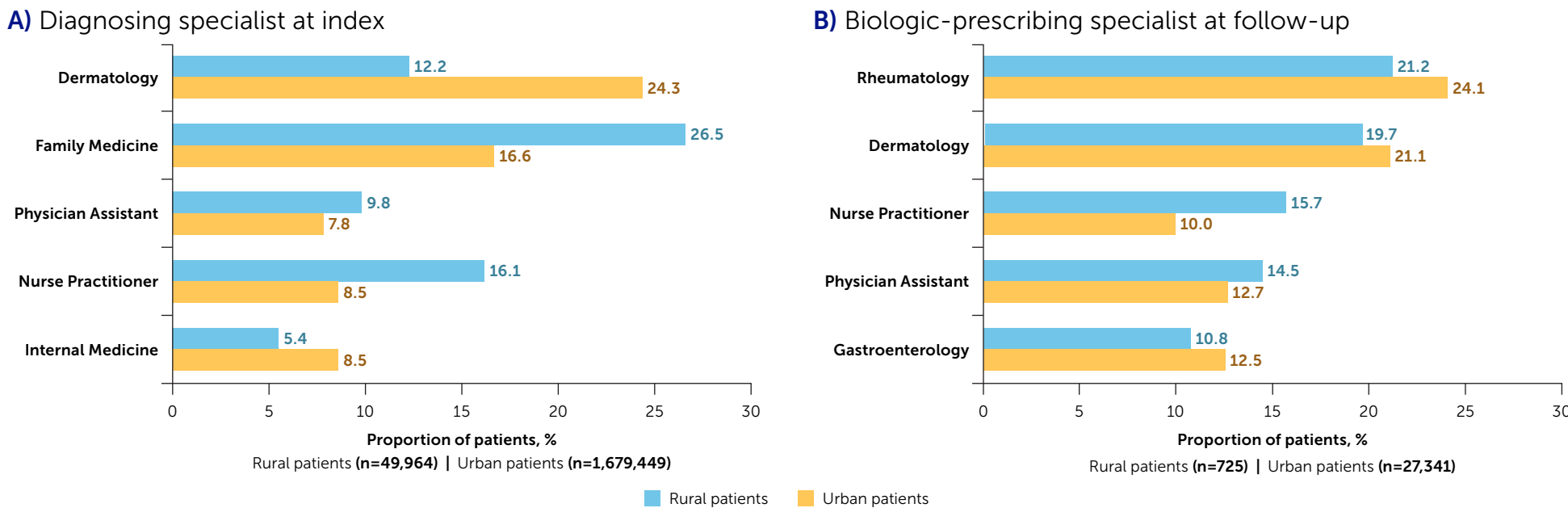


Figure 4 Diagnosing and biologic-prescribing specialists



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