

# UCLA

## UCLA Previously Published Works

### Title

Management Landscape of Pediatric Hidradenitis Suppurativa

### Permalink

<https://escholarship.org/uc/item/8hd4627c>

### Journal

Skin Appendage Disorders, 8(2)

### ISSN

2296-9195

### Authors

Seivright, Justine R  
Collier, Erin  
Grogan, Tristan  
[et al.](#)

### Publication Date

2022

### DOI

10.1159/000519135

Peer reviewed

# Management Landscape of Pediatric Hidradenitis Suppurativa

Justine R. Seivright<sup>a</sup> Erin Collier<sup>a</sup> Tristan Grogan<sup>b</sup> Terri Shih<sup>a</sup>  
Marcia Hogeling<sup>c</sup> Vivian Y. Shi<sup>d</sup> Jennifer L. Hsiao<sup>c</sup>

<sup>a</sup>David Geffen School of Medicine, University of California, Los Angeles, CA, USA; <sup>b</sup>Department of Medicine Statistics Core, David Geffen School of Medicine, University of California, Los Angeles, CA, USA; <sup>c</sup>Division of Dermatology, Department of Medicine, University of California Los Angeles, Los Angeles, CA, USA; <sup>d</sup>Department of Dermatology, University of Arkansas for Medical Sciences, Little Rock, AR, USA

## Keywords

Hidradenitis suppurativa · Pediatric dermatology · Provider landscape · Healthcare utilization · General dermatology · Acute care utilization

## Abstract

**Introduction:** Pediatric hidradenitis suppurativa (HS) is an understudied condition, and the literature describing the provider landscape for this disease is limited. We aim to characterize healthcare utilization in a cohort of pediatric HS patients at an academic institution. **Methods:** Patients diagnosed with HS before age 18 were identified via retrospective chart review using ICD-9/10 codes for HS. Data on demographics and HS providers were collected. **Results:** We found that half of the pediatric HS patients first presented to primary care with their HS symptoms. There was a mean delay in diagnosis of 2 years. Dermatologists and pediatricians were the principal HS care providers, and dermatologists most frequently prescribed treatment or procedures (63%). We also found a low rate of utilization of the HS specialty clinic (11%). Females, patients with more severe disease, and patients with earlier age of onset were more likely to be seen by a dermatologist. **Conclusions:** Dermatologists play a pivotal role in pediatric HS management as principal care providers

for patients. Increasing HS awareness among primary care providers, including pediatricians, is critical for early diagnosis and initiation of treatment.

© 2021 S. Karger AG, Basel

## Introduction

There is a paucity of literature on provider landscape for pediatric hidradenitis suppurativa (HS) patients [1, 2]. Here, we characterize healthcare utilization in a pediatric HS cohort at an academic institution.

## Methods

In April 2020, an electronic medical record search was conducted for HS patients  $\leq 25$  years old using ICD-9/10 codes in the University of California Los Angeles health system. Patients  $< 18$  years old at time of HS diagnosis were included. Demographics and HS provider data were collected. Disease severity was defined according to the Hurley stage; if the Hurley stage was not documented in the chart, a board-certified dermatologist (J.L.H.) assigned a Hurley stage based on the documented physical exam. Differences in likelihood of dermatology evaluation were assessed using  $\chi^2$  tests for categorical and  $t$  tests for continuous variables.  $p \leq 0.05$  was considered statistically significant.

**Table 1.** Patient demographics

Demographics (N = 73)	n (%)
Gender (n = 73)	
Female	59 (81)
Male	14 (19)
Race/ethnicity (n = 53)	
White	19 (36)
Hispanic	15 (28)
Black	10 (19)
Asian	3 (6)
Bi-racial	2 (4)
Other	4 (8)
Age at symptom onset, yr (mean ± SD, range) (n = 64)	12.6±2.9, 6–17
Pre-teen (age 0–12 yr) onset	31 (43)
Age at diagnosis, yr (mean ± SD, range) (n = 68)	14.3±2.6, 7–17
Age at presentation, yr (mean ± SD, range) (n = 73)*	14.5±2.5, 7–17
Family history of HS (n = 29)	
Yes	14 (48)
No	15 (52)
BMI (mean ± SD, range) (n = 47)*	28.6±7.4, 15.7–48.5
BMI percentile (mean ± SD, range) (n = 42)*	81.8±22.8, 20.5–99.5
Smoking status (n = 73)*	
Current smoker	1 (1)
Never smoker	51 (70)
Unknown	21 (29)
Hurley stage I/II/III	44 (60)/28 (38)/1 (1)

\* At the time of the first hidradenitis suppurativa-related visit at our institution.

## Results

Of 73 patients (81% female), 64% were non-White and 60% were Hurley-1 (Table 1). Mean age at symptom onset and at diagnosis was 12.6 years and 14.3 years, respectively. The first specialty overall to evaluate pediatric HS patients was primary care (50.6%), followed by dermatology (41.1%) (Fig. 1). The patient's "principal provider" (who accounts for >50% of HS-related visits) was most often a dermatologist (58.9%) or pediatrician (21.9%). Dermatologists most frequently prescribed treatment or procedures (63%), followed by pediatricians (27.4%) and family medicine physicians (12.3%). Only 11% were managed in the HS specialty clinic.

The likelihood of being evaluated by a dermatologist was significantly higher in females compared to males (71.2% vs. 35.7%,  $p = 0.013$ ) and patients with Hurley-2/3 compared to Hurley-1 (79.3% vs. 54.5%,  $p = 0.031$ ) or with pre-teen onset compared to teen onset (80.6% vs. 48.5%,  $p = 0.007$ ). This likelihood did not significantly differ by race (White vs. non-White), BMI, or HS family history. Acute care utilization, including urgent care

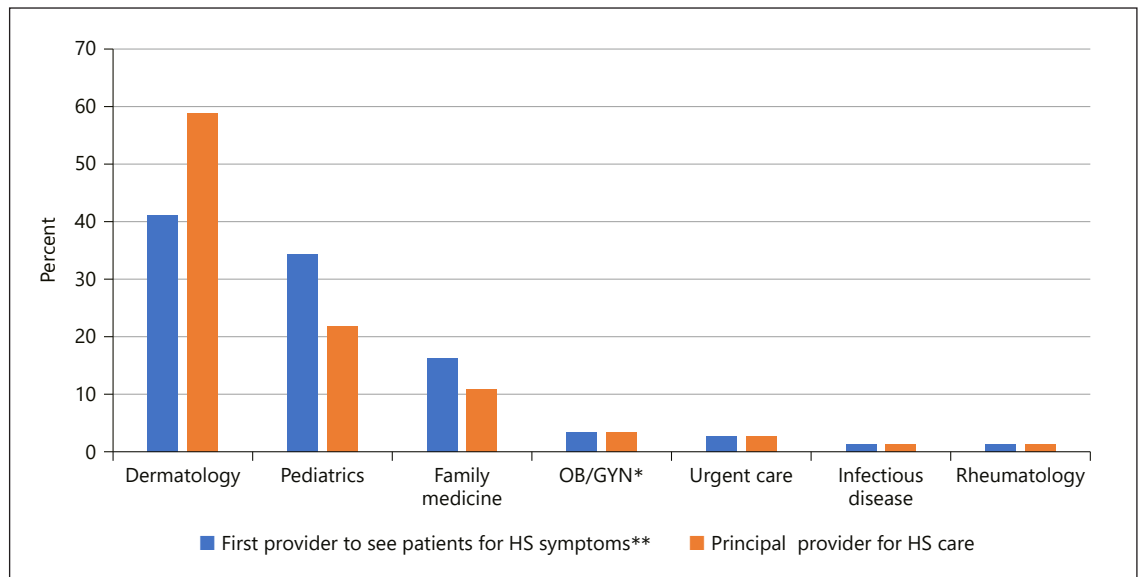
(6.8%), emergency department (2.8%), and hospitalizations (1.4%), was infrequent.

Over half (52.1%) of the patients were screened for psychiatric comorbidities; 27.4% received mental health referrals. Most (71.2%) received wound care instructions, while less than half received weight management counseling (42.5%) or nutritionist/dietitian referrals (15.1%).

## Discussion

Our study found that half (51%) of the pediatric HS patients first presented to primary care with their HS symptoms. Dermatologists and pediatricians were the principal HS providers. Females and patients with more advanced disease or earlier disease onset were more likely to be evaluated by dermatologists.

Diagnostic delays in HS contribute to poor outcomes, and early intervention may modulate disease progression [3, 4]. Prompt diagnosis and timely referral to dermatologists by PCPs should be encouraged. The minority of patients evaluated in the HS specialty clinic highlights the need to spread awareness of this clinic to pediatricians.



**Fig. 1.** Healthcare providers involved in care of pediatric HS patients ( $n = 73$ ). \*Percent of female patients. \*\*First provider to see the patient for HS symptoms within the institution. HS, hidradenitis suppurativa.

Compared to a recent multicenter pediatric HS study [1], we found a similar age of symptom onset and diagnosis (12.6 vs. 12.5; 14.3 vs. 14.4) and 2-year delay in diagnosis [1]. Our cohort had a lower rate of emergency department visits (2.8% vs. 22%) and hospitalizations (1.4% vs. 8%) [1], potentially attributable to varying disease severity. Institutional differences may explain the higher rates of psychological and nutritional support (27.4% vs. 4%; 15.1% vs. 2%) [1] in our cohort. This study's generalizability is limited by its single-center retrospective design. As pediatricians are important gatekeepers to initiation of HS management, improving HS awareness among our pediatrician colleagues is imperative to optimizing outcomes for pediatric HS patients.

### Acknowledgment

Statistical analyses for this research were supported by the NIH National Center for Advancing Translational Science (NCATS) UCLA CTSI Grant No. UL1TR001881.

### Statement of Ethics

The study was reviewed and approved by the UCLA IRB (#17-001267). The study protocol was reviewed, and the need for written and informed consent was waived by the University of California Los Angeles Institutional Review Board.

### Conflict of Interest Statement

J.L.H. is on the Board of Directors for the Hidradenitis Suppurativa Foundation and has served as an advisor for Novartis and a speaker for AbbVie. V.Y.S. is on the Board of the Directors for the Hidradenitis Suppurativa Foundation and has served as an advisor, investigator, and/or speaker for Sanofi Genzyme, Regeneron, AbbVie, Burt's Bees, Dermira, Eli Lilly, Novartis, Pfizer, Galderma, Leo Pharma, SUN Pharma, Menlo Therapeutics, GpSkin, and Skin Actives Scientific. M.H. is an investigator for Amgen and Celgene. J.S., E.C., T.G., and T.S. report no conflicts of interest. There was no financial transaction for the preparation of the manuscript.

### Funding Sources

No funding was received for this study.

### Author Contributions

All named authors met the International Committee of Medical Journal Editors (ICMJE) criteria for authorship for the manuscript and have given approval for submission.

### Data Availability Statement

The data that support the findings of this study are not publicly available due to privacy or ethical restrictions. The data are available from the corresponding author (J.L.H.) upon reasonable request.

## References

- 1 Liy-Wong C, Kim M, Kirkorian AY, Eichenfield LF, Diaz LZ, Horev A, et al. Hidradenitis suppurativa in the pediatric population: an international, multicenter, retrospective, cross-sectional study of 481 pediatric patients. *JAMA Dermatol*. 2021 Apr 1;157(4):385–91.
- 2 Reichert B, Fernandez Faith E, Harfmann K. Weight counseling in pediatric hidradenitis suppurativa patients. *Pediatr Dermatol*. 2020; 37(3):480–3.
- 3 Paek SY, Hamzavi I, Danby FW, Qureshi AA. Disease modification for hidradenitis suppurativa: a new paradigm. *J Am Acad Dermatol*. 2017;76(4):772–3.
- 4 Garg A, Neuren E, Cha D, Kirby JS, Ingram JR, Jemec GBE, et al. Evaluating patients' unmet needs in hidradenitis suppurativa: results from the global survey of impact and healthcare needs (VOICE) project. *J Am Acad Dermatol*. 2020;82(2):366–76.