

# Racial Disparities in the Treatment of Hidradenitis Suppurativa: An Analysis of Data from the National Ambulatory Medical Care Survey

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## ABSTRACT

Hidradenitis suppurativa (HS) is a painful, disfiguring, chronic inflammatory disease affecting the axillary, inframammary, and groin regions. Black Americans are disproportionately affected by HS. Structural barriers may be responsible for a lack of better prevention and management. This paper discusses possible reasons that may lead to a more severe presentation and barriers to treatment.

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## INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic inflammatory skin condition characterized by recurrent nodules, abscesses, and sinus tracts with secondary scarring and fibrosis resulting from immune responses to follicular occlusion.<sup>1,2,3</sup> Black patients, in the United States, have a higher prevalence of HS than White patients.<sup>3</sup>

HS has previously been associated with obesity/high body mass index (BMI) and lower socioeconomic status (SES), suggesting that patients of low SES may have more severe cases due to a variety of variables, including nutritional options, medication coverage, research funding for the condition, health insurance coverage, and reimbursement for physician treatment.<sup>3,4,5</sup> Black

Americans are more likely to be uninsured or underinsured than their White counterparts, which may cause barriers to accessing care or coverage for medication or treatment.<sup>6</sup> Here we investigate racial disparities in the management of HS using data from the National Ambulatory Medical Care Survey (NAMCS), and identify whether structural barriers may reduce equitable care to those with HS.

## MATERIALS AND METHODS

The data set in this study was obtained for the years 2012–2018 from the publicly available National Ambulatory Medical Care Survey, Centers for Disease Control and Prevention. Disparities in demographics, practices, and care for HS between White and Black patients were examined for many variables (Table 1). Data

TABLE 1.

Summary Statistics				
Characteristic	n, White patients (%)	n, Black patients (%)	χ-square P-value	Fisher's Exact Test Result
Age				
< 18 years old	41 (13.3)	14 (26.4)	.0214	Probability Age > 18 years is greater for White patients (P=.0160)
> 18 years old	267 (86.7)	39 (73.6)		
PaymentType				
Medicaid or Medicare	111 (37.0)	31 (59.6)	.0097	n/a
Private Insurance	139 (46.3)	15 (28.9)		
Other	50 (16.7)	6 (11.5)		
Was there a documented skin exam?				
Yes	192 (62.3)	25 (47.2)	.0392	Probability of a skin exam is greater for White patients (P=.0276)
No	116 (37.7)	28 (52.8)		

**TABLE 2.**

Medicare Reimbursement for Hidradenitis Suppurativa Treatment			
CPT Code	Code Description	MPFS National Payment Amount (\$)	Global Period (days)
10060; 10061	Incision and drainage of abscess; complicated or multiple abscesses.	\$121.68; \$218.71	10;10
11450; 11451	Excision of skin and subcutaneous tissue for hidradenitis, axillary; with simple or intermediate repair; with complex repair	\$454.03; \$550.24	90;90
11462; 11463	Excision of skin and subcutaneous tissue for hidradenitis; inguinal, with simple or intermediate repair; with complex repair	\$440.54; \$559.58	90;90
11470; 11471	Excision of skin and subcutaneous tissue for hidradenitis, perianal, perineal, or umbilical, with simple or intermediate repair; with complex repair	\$475.49; \$568.93	90;90
17110; 17111	Destruction (eg, laser surgery, electrosurgery, cryosurgery, chemosurgery, surgical curettage), of benign lesions other than skin tags or cutaneous vascular proliferative lesions (up to 14 lesions); 15 or more lesions	\$116.62; \$136.35	10;10

distributions were calculated between the two racial groups (Black and White). Chi-squared statistics and Fisher Exact Tests were computed to evaluate for significant differences between the above variables as a function of race. Chi-squared values were calculated based on Likelihood Ratio Theory. Fisher's exact tests were performed for 2 x 2 contingency tables.

## RESULTS

Chi-square tests indicated an association between age and race, with the probability of age over 18 years greater for White patients ( $P=.0160$ ). Additionally, an association between payment method and race ( $P=.0089$ ) was found indicating that Black patients were more likely to pay with Medicare or Medicaid, while White patients were more likely to pay with private insurance. White patients were also more likely to receive a skin exam ( $P=0.0267$ ) and to be scheduled for a long-term follow-up (>2 months from the initial visit,  $P=.0017$ ) compared to Black patients. Variables that were observed to be significantly different between White patients and Black patients were then used in logistic regression analysis.

## DISCUSSION

As in other diseases that predominantly affect minorities, HS research has been historically underfunded in the United States.<sup>7</sup> NIH funding for HS research did not occur until 2020, when the NIH created the Accelerated Basic and Translational Research in HS grant consisting of 2.5 million dollars to support HS research initiatives. However, even though Black patients have a 3-fold higher likelihood of developing HS than White patients, Black subjects remain underrepresented in clinical trials<sup>8</sup> and tend to go longer without a diagnosis or treatment.<sup>9</sup> Compared to White patients, Black patients have more severe episodes of HS and may have increased risk of developing comorbid skin diseases, such as squamous cell carcinoma, a rare but potential malignancy that may arise in such chronic inflammatory diseases.<sup>10</sup> Systemic issues related to nutrition, medication coverage, research funding, and reimbursement for

surgical treatment may contribute to the increased morbidity among Black patients.

Medical management of HS is first line, but coverage may be difficult. Treatments for HS include antiandrogen therapy (spironolactone), metformin, antibiotics, immune modulator medications, incision and drainage of abscesses, excision of skin and subcutaneous tissue with/without repair, and laser surgery. Insurance coverage may impact treatment choices. For example, treatments, such as immune modulators are often more difficult to have covered with Medicare and Medicaid than with private insurance plans. Surgical treatments for HS may also have limited access as procedures are complex, such as marsupialization of sinus tracts, requiring extensive time to complete. These procedures have a 90-day global period, requiring a great deal of follow-up relative to reimbursement. Thus, possibly inhibiting physicians from taking on challenging cases due to inadequate reimbursement.<sup>11,12</sup> We found that Black patients were more likely than White patients to pay with Medicare/Medicaid, which poorly reimburses for these procedures.<sup>11</sup> Barriers to medical management and poor reimbursement/compensation for necessary procedural interventions may present a barrier to finding providers and access to treatment among Black patients who are disproportionately affected by HS.

As obesity is associated with worse HS symptoms, a reduction in weight is also important, but aspects like lack of access to healthful foods, gyms, and nutrition education may make this difficult. Greater distance to supermarkets (food deserts) and higher food prices have been correlated with obesity in majority Black American neighborhoods.<sup>12</sup>

## CONCLUSIONS

In conclusion, there are multiple factors, including structural barriers, such as funding for medical and surgical management and assistance in prevention, which lead to a disparity in severity of HS, treatment, and social impact on Black Americans. Poorly

controlled HS and the chronic, debilitating nature of this disease may result in increased social services and a reduction in work productivity, and a negative effect on socioeconomic status.

## DISCLOSURES

The authors have no conflicts of interest to declare.

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