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Epidemiological Trends in Hidradenitis Suppurativa Incidence: Insights into Sex, Race, and Age-Based Patterns over a Decade

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Abstract

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disorder characterized by recurrent nodules, abscesses, sinus tracts, and scarring, primarily affecting intertriginous areas. Despite its significant physical and psychosocial burden, HS remains underdiagnosed, and its temporal trends in incidence have not been comprehensively studied. This population-based study analyzed trends in HS incidence over a 10-year period (2014–2023) using the TriNetX electronic health record database, including individuals aged 0–84 years across the United States.

Annual incidence rates were calculated and stratified by sex, race, and age group to identify temporal patterns and demographic disparities. Overall, HS incidence demonstrated a consistent upward trend, increasing from 0.047% in 2014 to 0.109% in 2023, despite annual fluctuations. The incidence was persistently higher in

females compared to males, with females exhibiting rates up to 2.5 times greater throughout the study period. Racial disparities were evident, as African Americans experienced significantly higher incidence rates than Caucasians and Asians. Age-based analysis revealed the highest incidence among adolescents and young adults aged 10–34 years, with a sharp increase in the 10–14 years group post-2020, while rates remained low in older adults and children under 10 years.

These findings highlight a rising burden of HS, particularly among females, African Americans, and younger populations. The study underscores the need for increased awareness, earlier diagnosis, and targeted interventions to address healthcare disparities and improve outcomes in high-risk groups. Continued research into the biological and systemic factors driving these trends is essential.

Keywords: Hidradenitis Suppurativa, Epidemiology, Incidence Trends, Sex Disparities, Racial Disparities

Introduction

Hidradenitis suppurativa (HS), also referred to as acne inversa or Verneuil disease, is a chronic inflammatory skin disorder characterized by blocked hair follicles, leading to the formation of painful, deep-seated nodules, abscesses, draining sinus tracts, and thickened scar tissue ^[1, 2]. These lesions are most commonly found in intertriginous regions such as the axillae, groin, perianal, perineal, and inframammary areas, although they can appear in any area containing folliculopilosebaceous units ^[3, 4]. The condition places a significant physical and emotional burden on individuals, with symptoms such as persistent pain, unpleasant odor, and disfiguring scars causing reduced quality of life and increasing the likelihood of psychological conditions like depression and anxiety ^[5, 6]. Despite its serious impact, HS is frequently misdiagnosed or overlooked, with delays in diagnosis averaging up to seven years, often resulting in worsened symptoms and more severe disease progression ^[7]. The development of HS is influenced by a complex interplay of genetic, hormonal, and environmental factors. Familial clustering of cases and mutations in genes like those involved in the γ -secretase complex, SOX9, and PSTPIP1 suggest a genetic predisposition ^[8-10]. Hormonal changes, such as those occurring during puberty, menstruation, and pregnancy, are known to worsen the disease, contributing to its higher prevalence in women ^[11]. Environmental factors, including smoking, obesity, and mechanical friction, are also significant contributors, as they promote follicular blockage and exacerbate inflammation ^[12, 13]. Smoking is particularly notable for its role in worsening disease severity, potentially through nicotine-induced follicular plugging ^[14, 15].

Epidemiological data indicate that HS affects approximately 0.1% to 4% of the population, though this range is likely underestimated due to challenges in diagnosis and the exclusion of minority populations in many studies ^[16, 17]. The disease

typically begins during adolescence or early adulthood, peaking between the ages of 21 and 29^[18]. Women are affected about three times more often than men, a difference that may reflect both biological factors and disparities in healthcare-seeking behaviors. Additionally, African Americans bear a disproportionate burden of the disease, with higher incidence rates and severity likely resulting from a combination of genetic factors, unequal access to healthcare, and environmental influences^[19, 20].

While HS is a condition with significant healthcare implications, there is a lack of comprehensive longitudinal research analyzing trends in its incidence over time. Understanding these trends, along with demographic disparities, is essential to identifying high-risk populations, improving early diagnosis, and guiding public health interventions.

This nationwide, population-based study addresses this critical gap by analyzing HS incidence trends over a 10-year period (2014–2023) using data from TriNetX, a large-scale electronic health record database that covers diverse populations across the United States. We aim to assess the temporal trends in HS incidence to determine whether rates have increased, stabilized, or declined over the study period. Additionally, this study examines sex-based disparities, focusing on the trends in incidence rates between males and females, particularly the persistently higher rates observed in females. We also analyze racial disparities by evaluating the trends in incidence among African Americans, Caucasians, and Asians, highlighting the disproportionately high burden of HS among African Americans compared to other groups. Finally, we characterize age-based patterns, emphasizing the concentration of HS cases in adolescents and young adults. By addressing these objectives, this study provides critical insights into the epidemiology of HS, highlighting the growing burden of this chronic condition and the need for targeted public health initiatives, earlier diagnosis, and equitable access to care.

Methods

Study Design and Data Sources

This retrospective, population-based study analyzed temporal, demographic, and age-based trends in the incidence of hidradenitis suppurativa (HS) from January 1, 2014, to December 31, 2023. Data were obtained from the TriNetX Research Network, a real-world data platform that aggregates de-identified electronic health records (EHRs), insurance claims, and clinical information from participating healthcare organizations across the United States. TriNetX provides access to robust, large-scale patient-level data, enabling reliable analyses of epidemiological trends representative of the U.S. population.

HS cases were identified using diagnostic codes from the International Classification of Diseases, 10th Revision (ICD-10), specifically code L73.2. Only incident cases of HS, defined as individuals with no prior HS diagnosis before January 1, 2014, were included. To improve data accuracy, duplicate cases and records with incomplete demographic or clinical information were excluded.

Study Population

The study population included individuals aged 0–84 years from all healthcare organizations contributing data to TriNetX across the United States. Cases were stratified into

the following subgroups for analysis:

- **Sex:** Male and Female
- **Race:** Caucasian, African American, Asian
- **Age Groups:** 0–4, 5–9, 10–14, 15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, and 80–84 years.

Population denominators were derived from annual census-based estimates provided within the TriNetX platform. These estimates allowed the calculation of incidence rates and their temporal trends.

Case Definitions and Incidence Rate Calculations

HS cases were defined as patients with at least one primary diagnosis of HS (ICD-10: L73.2) recorded in their EHR during the study period. To ensure new (incident) cases were captured, patients with any prior HS diagnosis or HS-related clinical visits before 2014 were excluded.

Annual incidence rates were calculated as follows:

$$\text{Incidence Rate(\%)} = (\text{Number of New HS Cases}) / (\text{Population Size}) \times 100$$

95% confidence intervals (CIs) for incidence rates were calculated using the Poisson distribution. TriNetX's built-in analytics tools provided patient counts, stratified subgroup data, and calculated estimates.

Statistical Analysis

The study focused on year-over-year trends in incidence rates and subgroup comparisons.

1. Percent Change in incidence rates was calculated using the formula:

$$\text{Percent Change} = (\text{Incidence Rate in Current Year} - \text{Incidence Rate in Previous Year}) / (\text{Incidence Rate in Previous Year}) \times 100$$

Z-tests were performed to evaluate the statistical significance of changes in incidence rates, with a p-value <0.05 considered significant.

Subgroup analyses included the following:

- **Sex-Based Trends:** Comparisons of incidence rates, percent changes, and significance levels between males and females.
- **Racial Disparities:** Analyses of incidence rates across Caucasians, African Americans, and Asians, including 95% CIs and year-over-year comparisons.
- **Age-Based Patterns:** Annual trends stratified across the specified age groups, with heatmaps generated to visualize patterns over time.

Data analysis and visualization were conducted using TriNetX's Analytics Tools, supplemented by R software (version 4.1.2) for additional statistical testing and graph generation.

Quality Control

TriNetX's built-in data validation procedures ensured data completeness, accuracy, and de-identification. Outlier cases, extreme values, and inconsistencies were addressed using automated checks and manual reviews where required. Population estimates and denominators were cross-referenced with available U.S. census data for quality assurance.

Results

Overall Incidence Trends

The incidence of hidradenitis suppurativa (HS) in individuals aged 0–84 years demonstrated a consistent upward trend from 2014 to 2023, despite some annual fluctuations. In 2014, the incidence rate was 0.047% (95% CI: 0.041–0.053), increasing to 0.061% in 2015 (29.79%, $p = 0.001$), marking the largest annual increase during the study period. By 2016, the incidence rate further rose to 0.076% (24.59%, $p = 0.001$). However, in 2017, the rate declined slightly to 0.073% (-3.95%, $p = 0.553$),

representing the first observed decrease.

The incidence rebounded in 2018, increasing to 0.089% (21.92%, $p = 0.002$), and continued to rise modestly to 0.092% in 2019 (3.37%, $p = 0.553$). A decline followed in 2020, with the incidence rate dropping to 0.083% (-9.78%, $p = 0.075$). In 2021, a sharp rebound occurred, with the incidence rising to 0.107% (28.92%, $p = 0.001$). The rates stabilized in subsequent years, at 0.106% in 2022 (-0.93%, $p = 0.862$) and increasing slightly to 0.109% in 2023 (2.83%, $p = 0.603$) (Fig 1, Table 1, Table 2).

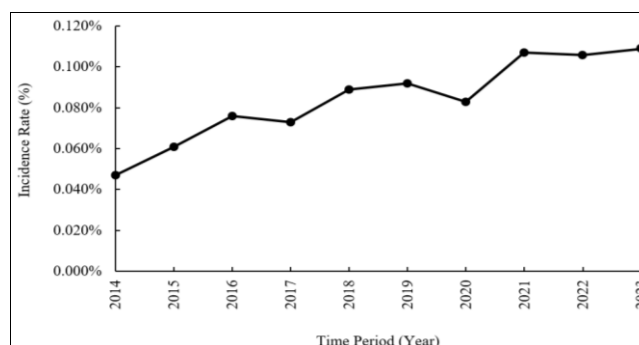


Fig 1a: Temporal trends in the incidence rate of HS from 2014 to 2023

Table 1: Annual Incidence Rates of Hidradenitis Suppurativa (HS) with Confidence Intervals (2014–2023)

Time Period	Number of HS Cases	Population Size	Incidence Rate	95% CI (%)
1/1/14 - 12/31/14	243	517,021	0.047%	0.041 - 0.053
1/1/15 - 12/31/15	342	560,655	0.061%	0.055 - 0.067
1/1/16 - 12/31/16	461	606,578	0.076%	0.069 - 0.083
1/1/17 - 12/31/17	472	646,575	0.073%	0.066 - 0.080
1/1/18 - 12/31/18	612	687,640	0.089%	0.082 - 0.096
1/1/19 - 12/31/19	659	716,304	0.092%	0.085 - 0.099
1/1/20 - 12/31/20	596	718,072	0.083%	0.076 - 0.090
1/1/21 - 12/31/21	773	722,429	0.107%	0.099 - 0.115
1/1/22 - 12/31/22	740	698,113	0.106%	0.098 - 0.114
1/1/23 - 12/31/23	718	658,715	0.109%	0.101 - 0.117

Table 2: Year-to-Year Percent Changes in Incidence Rates of Hidradenitis Suppurativa (HS) with P-Values

Time Period	Percent Change in Incidence Rate	P-Value
2014-2015	29.79%	0.001
2015-2016	24.59%	0.001
2016-2017	-3.95%	0.553
2017-2018	21.92%	0.002
2018-2019	3.37%	0.553
2019-2020	-9.78%	0.075
2020-2021	28.92%	0.001
2021-2022	-0.93%	0.862
2022-2023	2.83%	0.603

Sex Differences

The incidence of HS consistently demonstrated higher rates in females compared to males across the study period (Fig 2).

Among males, the incidence rate in 2014 was 0.022% (95% CI: 0.016–0.024), increasing to 0.033% in 2015 (50.0%, $p = 0.001$). The rate continued to rise to 0.035% in 2016 (6.1%, $p = 0.001$) and increased further to 0.048% in 2017 (37.1%, $p = 0.001$). In 2018, the rate declined slightly to 0.045% (-6.3%, $p = 0.001$), rebounded to 0.047% in 2019 (4.4%, $p = 0.001$), and dropped to 0.042% in 2020 (-10.6%, $p = 0.001$). By 2021, the incidence rose to 0.051% (21.4%, $p = 0.001$) and continued increasing to 0.055% in 2022 (7.8%, $p =$

0.001) and 0.059% in 2023 (7.3%, $p = 0.001$).

In females, the incidence rate began at 0.018% in 2014 (95% CI: 0.013–0.023), rising significantly to 0.065% in 2015 (23.1%, $p = 0.001$) and further increasing to 0.08% in 2016 (33.8%, $p = 0.001$). A notable increase to 0.107% occurred in 2017 (-14.0%, $p = 0.001$), followed by stabilization at 0.092% in 2018 (29.3%, $p = 0.001$). The rate increased to 0.119% in 2019 (4.2%, $p = 0.001$) and remained stable at 0.124% in 2020. By 2021, the incidence increased to 0.112% (31.3%, $p = 0.001$), reaching 0.147% in 2022 (0.7%, $p = 0.001$) and stabilizing at 0.148% in 2023 (0.7%, $p = 0.001$) (Table 3, Table 4).

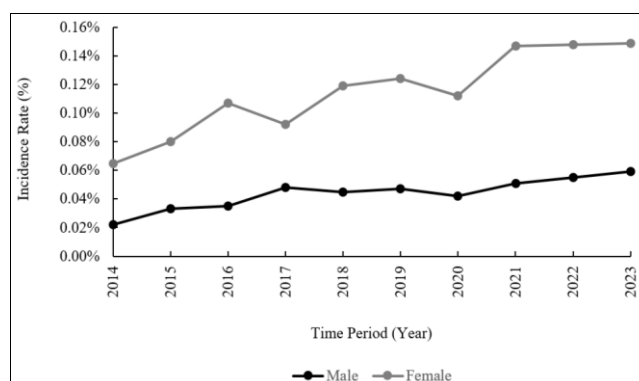


Fig 2a: Incidence rates of HS by sex from 2014 to 2023

Table 3: Sex-Based Differences in Hidradenitis Suppurativa (HS) Incidence Rates with Population Sizes and Confidence Intervals (2014–2023)

Time Period	Sex							
	Male				Female			
	Number of HS Cases	Population Size	Incidence Rate	95% CI (%)	Number of HS Cases	Population Size	Incidence Rate	95% CI (%)
1/1/14 - 12/31/14	43	71,667	0.022%	0.043 - 0.077	33	183,333	0.018%	0.013 - 0.023
1/1/15 - 12/31/15	71	355,000	0.033%	0.016 - 0.024	194	298,462	0.065%	0.056 - 0.074
1/1/16 - 12/31/16	81	270,000	0.035%	0.024 - 0.036	255	318,750	0.08%	0.070 - 0.090
1/1/17 - 12/31/17	119	297,500	0.048%	0.033 - 0.047	364	340,187	0.107%	0.096 - 0.118
1/1/18 - 12/31/18	119	238,000	0.045%	0.041 - 0.059	335	364,130	0.092%	0.082 - 0.102
1/1/19 - 12/31/19	130	260,000	0.047%	0.042 - 0.058	459	385,714	0.119%	0.108 - 0.130
1/1/20 - 12/31/20	117	234,000	0.042%	0.042 - 0.058	490	395,161	0.124%	0.111 - 0.137
1/1/21 - 12/31/21	143	357,500	0.051%	0.033 - 0.047	446	398,214	0.112%	0.101 - 0.123
1/1/22 - 12/31/22	149	298,000	0.055%	0.042 - 0.058	586	398,639	0.147%	0.136 - 0.158
1/1/23 - 12/31/23	150	250,000	0.059%	0.050 - 0.070	570	385,135	0.148%	0.136 - 0.160

Table 4: Yearly Percent Change in Incidence Rate of HS by Sex with Associated P-Values (2014–2023)

Time Period	Sex			
	Male		Female	
	Percent Change in Incidence Rate	P-Value	Percent Change in Incidence Rate	P-Value
2014-2015	50.0%	0.0001	23.1%	0.0001
2015-2016	6.1%	0.0001	33.8%	0.0001
2016-2017	37.1%	0.0001	-14.0%	0.0001
2017-2018	-6.3%	0.0001	29.3%	0.0001
2018-2019	4.4%	0.0001	4.2%	0.0001
2019-2020	-10.6%	0.0001	-9.7%	0.0001
2020-2021	21.4%	0.0001	31.3%	0.0001
2021-2022	7.8%	0.0001	0.7%	0.0001
2022-2023	7.3%	0.0001	0.7%	0.0001

Racial Disparities

The incidence of HS varied significantly by race, with African Americans consistently experiencing higher rates than Caucasians and Asians throughout the study period (Fig 3).

Among African Americans, the incidence rate increased steadily from 0.121% in 2014 (95% CI: 0.009–0.015) to 0.148% in 2015, reflecting a 20.9% increase ($p = 0.001$). This upward trend continued in 2016, with the rate reaching 0.179% (8.9%, $p = 0.001$). However, in 2017, the rate declined slightly to 0.195% (-7.7%, $p = 0.075$), marking the

first decrease during the study period. The incidence rebounded in 2018 to 0.224% (10.0%, $p = 0.001$), followed by a slight increase to 0.237% in 2019 (13.1%, $p = 0.002$). After a decline in 2020 to 0.201% (-10.3%, $p = 0.045$), the incidence rose sharply in 2021 to 0.224% (17.9%, $p = 0.001$). The rate remained stable at 0.237% in 2022 and increased modestly to 0.235% in 2023 (4.7%, $p = 0.215$).

Among Caucasians, the incidence rate rose from 0.035% in 2014 (95% CI: 0.029–0.041) to 0.039% in 2015, a 21.9% increase ($p = 0.001$). A more significant rise occurred in 2016, where the rate climbed to 0.058% (48.7%, $p = 0.001$).

The incidence stabilized at 0.058% through 2017 and 2018 (0.0%, $p = 1.0$) before increasing to 0.071% in 2019 (22.4%, $p = 0.001$). In 2020, the rate remained unchanged at 0.071% (-7.0%, $p = 0.065$). By 2021, the rate increased sharply to 0.093% (30.3%, $p = 0.001$), where it remained stable through 2022 and 2023.

Among Asians, the incidence rate began at 0.029% in 2014 (95% CI: 0.001–0.005) but declined slightly to 0.027% in 2015 (-7.4%, $p = 0.553$). The rate rebounded in 2016 to

0.025% (39.1%, $p = 0.001$) and remained stable at this level in 2017. A significant increase occurred in 2018, with the rate rising to 0.032% (40.6%, $p = 0.001$). However, a sharp decline followed in 2019 to 0.045% (-28.9%, $p = 0.023$). The rate stabilized at 0.032% through 2020 (-6.3%, $p = 0.701$). In 2021, the incidence recovered sharply to 0.054% (80.0%, $p = 0.001$), maintaining consistency at this level through 2022 and 2023, with modest increases of 8.7% ($p = 0.453$) in 2023 (Table 5, Table 6).

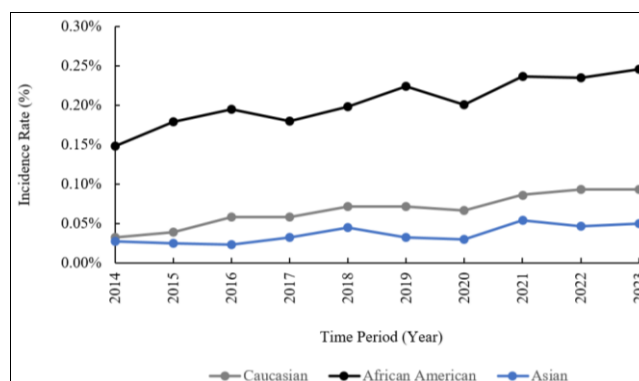


Fig 3a: Incidence rates of hidradenitis suppurativa (HS) by race from 2014 to 2023

Table 5: Demographic Distribution of Hidradenitis Suppurativa (HS) Cases by Race with Corresponding Population Sizes, Incidence Rates, and 95% Confidence Intervals (2014–2023)

Time Period	Race											
	Caucasian				African American				Asian			
	Number of HS Cases	Population Size	Incidence Rate	95% CI (%)	Number of HS Cases	Population Size	Incidence Rate	95% CI (%)	Number of HS Cases	Population Size	Incidence Rate	95% CI (%)
1/1/14 - 12/31/14	112	320,000	0.035%	0.029 - 0.041	73	60,331	0.121%	0.009 - 0.015	10	34,483	0.029%	0.001 - 0.005
1/1/15 - 12/31/15	111	346,875	0.032%	0.026 - 0.038	96	64,865	0.148%	0.012 - 0.018	10	37,037	0.027%	0.001 - 0.004
1/1/16 - 12/31/16	143	366,667	0.039%	0.033 - 0.045	122	68,158	0.179%	0.015 - 0.021	10	40,000	0.025%	0.001 - 0.004
1/1/17 - 12/31/17	226	389,655	0.058%	0.050 - 0.066	144	73,846	0.195%	0.016 - 0.023	10	43,478	0.023%	0.001 - 0.004
1/1/18 - 12/31/18	240	413,793	0.058%	0.051 - 0.065	139	77,222	0.18%	0.015 - 0.021	15	46,875	0.032%	0.002 - 0.005
1/1/19 - 12/31/19	312	438,028	0.071%	0.063 - 0.079	162	81,818	0.198%	0.017 - 0.023	22	48,889	0.045%	0.003 - 0.006
1/1/20 - 12/31/20	325	457,746	0.071%	0.063 - 0.079	186	83,036	0.224%	0.019 - 0.026	16	50,000	0.032%	0.002 - 0.005
1/1/21 - 12/31/21	305	462,121	0.066%	0.059 - 0.073	166	82,090	0.201%	0.017 - 0.023	15	50,000	0.03%	0.001 - 0.005
1/1/22 - 12/31/22	398	462,791	0.086%	0.078 - 0.094	195	82,278	0.237%	0.020 - 0.027	28	51,852	0.054%	0.003 - 0.007
1/1/23 - 12/31/23	419	450,538	0.093%	0.084 - 0.102	185	78,723	0.235%	0.020 - 0.027	23	50,000	0.046%	0.003 - 0.006

Table 6: Yearly Percent Change in Incidence Rate of Hidradenitis Suppurativa (HS) by Race with Associated P-Values (2014–2023)

Time Period	Race					
	Caucasian		African American		Asian	
	Percent Change in Incidence Rate	P-Value	Percent Change in Incidence Rate	P-Value	Percent Change in Incidence Rate	P-Value
2014-2015	21.9%	0.001	20.9%	0.001	-7.4%	0.553
2015-2016	48.7%	0.001	8.9%	0.001	-8.0%	0.499
2016-2017	0.0%	1.0	-7.7%	0.075	39.1%	0.001
2017-2018	22.4%	0.001	10.0%	0.001	40.6%	0.001
2018-2019	0.0%	1.0	13.1%	0.002	-28.9%	0.023
2019-2020	-7.0%	0.065	-10.3%	0.045	-6.3%	0.701
2020-2021	30.3%	0.001	17.9%	0.001	80.0%	0.001
2021-2022	8.1%	0.002	-0.8%	0.862	-14.8%	0.065
2022-2023	0.0%	1.0	4.7%	0.215	8.7%	0.453

Age-Based Trends in Hidradenitis Suppurativa Incidence

The heatmap highlights significant variation in the incidence of hidradenitis suppurativa (HS) across different age groups from 2014 to 2023. The highest incidence rates are concentrated among adolescents and young adults, particularly those aged 10–34 years, with rates increasing over time. In contrast, children under 10 years and adults aged 55 years and above consistently displayed the lowest rates, with minimal variation over the study period.

The 10–14 years age group showed the most pronounced change, with relatively low and stable rates from 2014 to 2020, followed by a dramatic increase from 2021 onward. By 2023, this group exhibited the highest incidence rates among all age groups, as evidenced by the intense red shading on the heatmap. Adolescents aged 15–19 years also experienced a steady increase in incidence, peaking in the final years of the study, though not as sharply as the 10–14 years group.

Among young adults aged 20–34 years, the heatmap indicates a consistent upward trend in incidence. The 20–24 and 25–29 years groups, in particular, exhibited higher rates throughout the study period, peaking in the later years. Similarly, individuals aged 30–34 years displayed a gradual increase over time, with notable growth in incidence rates by 2022 and 2023.

Middle-aged adults (35–54 years) showed moderate incidence rates that varied slightly over time. The heatmap reveals noticeable increases for individuals aged 35–39 years around 2018 and again in the final years of the study, whereas the 40–54 years age groups demonstrated more stable patterns with subtle increases toward the end of the study period.

In contrast, older adults (55 years and above) consistently exhibited the lowest incidence rates across the study period. The 55–59 years group showed slightly higher rates compared to other older age groups, but rates remained low overall. The heatmap indicates minimal variation in the 60–84 years groups, with a gradual decline observed in the oldest age group (80–84 years), where incidence rates dropped to negligible levels by 2023.

Children under 10 years old, including the 0–4 and 5–9 years groups, exhibited little to no detectable incidence across the study period, as evidenced by the consistent blue shading on the heatmap.

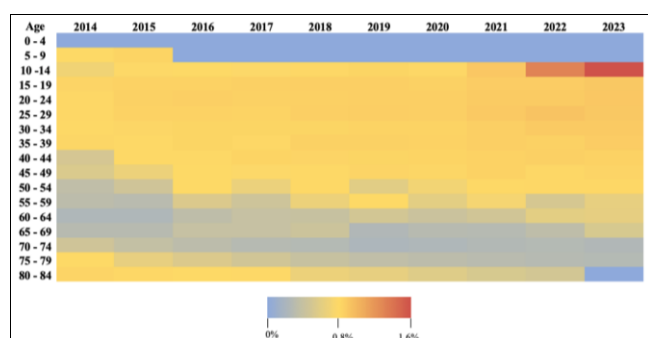


Fig 4: Heatmap of HS incidence rates by age group and year from 2014 to 2023

Discussion

This study provides critical insights into the epidemiological trends of hidradenitis suppurativa (HS) over a decade, highlighting notable temporal increases, sex-based

disparities, racial inequalities, and age-specific patterns. These findings reinforce HS as a condition with significant healthcare implications and emphasize the need for targeted interventions to improve early diagnosis, equity in care, and disease management.

Interpretation of Overall Trends

The steady upward trend in HS incidence from 2014 to 2023 likely reflects improved awareness and diagnostic capabilities rather than a true rise in disease occurrence. Spikes observed in 2015 and 2021 may correlate with increased education, awareness campaigns, and post-pandemic recovery in healthcare delivery. For example, advancements in dermatological guidelines during this period may have equipped providers with better tools to identify HS early.

Conversely, the declines seen in 2017 and 2020 suggest disruptions to healthcare access and priorities. The 2020 drop, coinciding with the COVID-19 pandemic, aligns with reports of delayed care and decreased clinic visits across multiple conditions globally. The stabilization in 2022 and 2023 could indicate a plateau in case identification or saturation in the healthcare system's ability to diagnose previously undetected cases. These patterns underscore the sensitivity of HS incidence to external healthcare factors and systemic disruptions.

Sex-Based Disparities

The persistently higher HS incidence in females aligns with established epidemiological findings. Hormonal influences likely play a pivotal role, as HS frequently flares during periods of hormonal fluctuation (e.g., puberty, menstruation, pregnancy). The association between androgen dysregulation and follicular occlusion supports a biological basis for these sex differences.

However, healthcare-seeking behavior also contributes significantly. Women are more likely to consult providers for visible or painful skin conditions, leading to earlier diagnosis. In contrast, the steep decline in male incidence in 2015 suggests underdiagnosis or underreporting, potentially linked to social stigma and healthcare avoidance among men. Addressing this gap requires targeted education campaigns to encourage early recognition and care-seeking behaviors in male populations.

Racial Disparities and Systemic Inequities

The disproportionately high HS incidence among African Americans compared to Caucasians and Asians highlights ongoing racial health disparities. Although genetic predisposition may contribute to the elevated rates, systemic inequities in healthcare access likely exacerbate the burden of disease. African Americans are often diagnosed later, experience higher disease severity, and encounter delays in receiving specialized care.

In contrast, the lower incidence observed among Asians raises important considerations about cultural influences and healthcare behaviors. Underreporting due to stigma surrounding dermatological conditions and limited access to specialty care may explain these findings. Further investigation into genetic, environmental, and socioeconomic factors is critical for addressing these disparities. Interventions aimed at increasing equitable access to dermatological care and raising awareness in underserved communities remain a public health priority.

Age-Specific Insights

The concentration of HS incidence among adolescents and young adults (10–34 years) highlights the role of hormonal activity in disease onset. Puberty-associated activation of apocrine glands and androgenic influences contribute to disease pathogenesis, explaining the peak incidence during hormonally active years. Notably, the sharp rise in the 10–14 years age group post-2020 may reflect increased awareness and earlier diagnosis, particularly with growing pediatric dermatology recognition.

In contrast, the lower incidence rates in children under 10 years and adults aged 55 years and above suggest that HS primarily develops during hormonally active phases. For older adults, remission or underreporting due to diagnostic challenges may explain the declining rates. Addressing HS in younger populations requires proactive screening in high-risk groups and improved education for pediatric providers.

Conclusion

This study highlights critical trends in HS incidence, including significant sex- and race-based disparities and the concentration of cases in younger populations. The findings emphasize the need for equitable access to care, earlier diagnosis, and targeted public health initiatives to address systemic inequities. Continued research into the biological and social determinants of HS is essential to develop effective strategies for reducing its burden and improving patient outcomes.

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