# EE294

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# Burden of Behavioral Health Conditions Among Individuals With Vitiligo in an Insured US Population

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All Individuals

# Introduction

- Vitiligo is a chronic autoimmune disease characterized by the destruction of melanocytes, resulting in pale or white patches of skin<sup>1</sup>
- Prevalence of vitiligo in the United States ranges from 0.1% to 1.5%<sup>2-4</sup>
- Vitiligo is associated with significant quality-of-life impairment in routine activities, employment, and psychosocial health<sup>5,6</sup>
- Patients with vitiligo are approximately 5 times more likely to have depression than healthy individuals<sup>7,8</sup>

# Objective

 To describe behavioral health burden among individuals with vitiligo in the United States using data from a claims database

## Methods

#### Study Design

- Data were collected from the IBM MarketScan Commercial and Medicare supplemental claims database
- Eligible individuals were ≥12 years old with a medical claim for vitiligo in 2018 (first claim is index date) and 12 continuous months of post-index enrollment in their healthcare plan
- Demographics, healthcare resource utilization (HCRU), and expenditures (excluding out-of-pocket) were aggregated at an individual level and summarized per patient per year (PPPY)
- HCRU and expenditures were compared in individuals with vs
   without ≥1 behavioral health comorbidity
- Comorbidities and prescription data were identified based on prespecified International Classification of Diseases (ICD)-10 and National Drug Code (NDC) codes

#### Statistical Analyses

- Data were analyzed using descriptive statistics
- Statistical comparisons (chi-square for categorical variables, t test for continuous variables) were made between the subgroup of individuals with and without ≥1 diagnosed behavioral health comorbidity

## Results

#### Population Characteristics

 Overall, 12,427 individuals ≥12 years old were diagnosed with vitiligo in 2018 and included in the analysis (Table 1)

- Mean (SD) age was 44 (16.9) years, and 53.2% were female
- Most individuals (93%) were identified from the MarketScan commercial database, and 7% were identified from the Medicare supplemental claims database
- Almost one-fourth (23.5%) had a diagnosis of a behavioral health condition, with the most common being sleep disorder (9.8%), depression (7.2%), adjustment disorder (4.8%), and anxiety (4.8%)

Table 1. Demographics and Baseline Characteristics of Individuals Diagnosed With Vitiligo

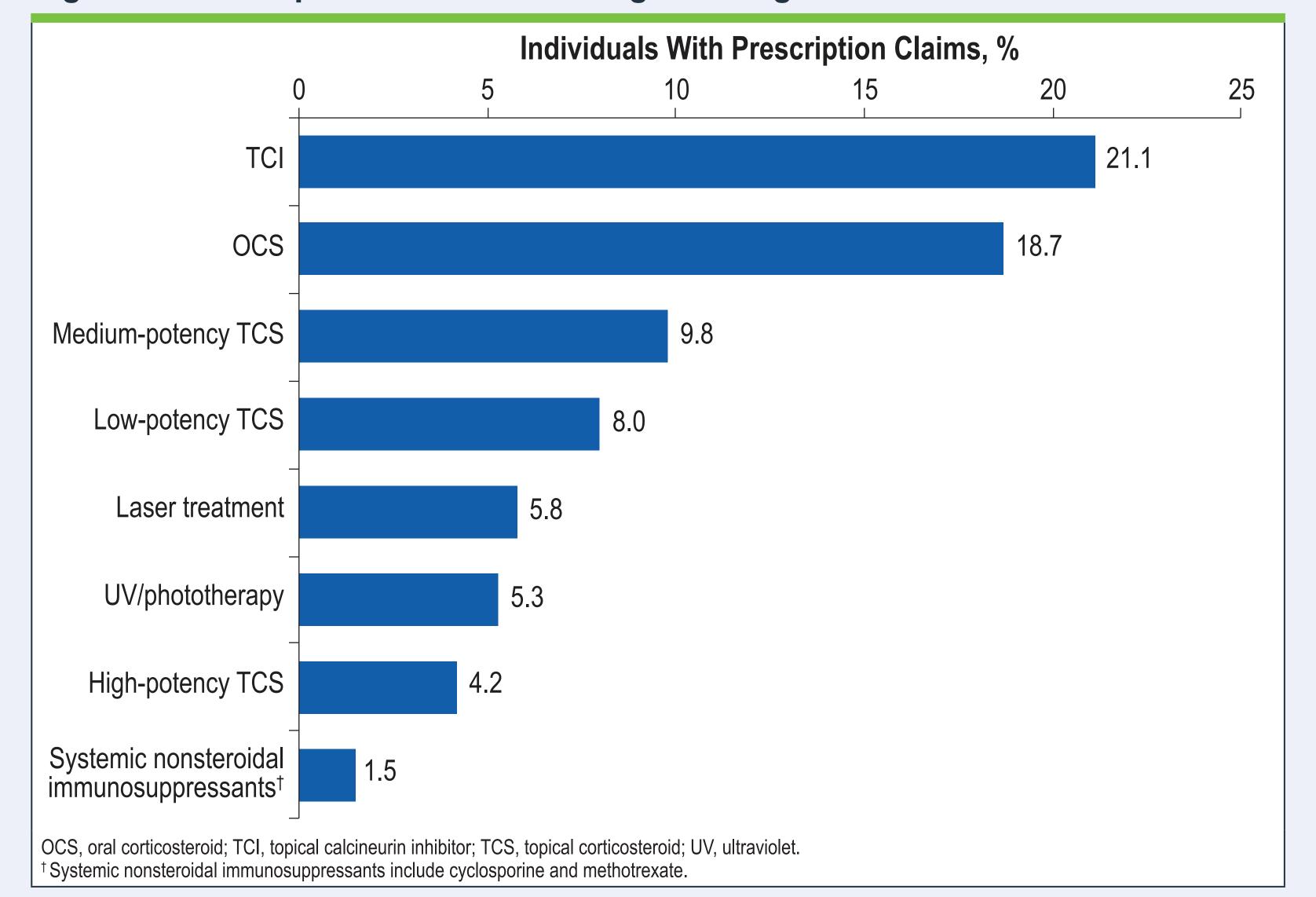
Characteristics	(N=12,427)	
Age, mean (SD), y	44 (16.9)	
Age groups, n (%), y		
12–17	1306 (10.5)	
18–29	1493 (12.0)	
30–39	1877 (15.1)	
40–49	2541 (20.5)	
50-64	4378 (35.2)	
≥65	832 (6.7)	
Female, n (%)	6609 (53.2)	
Employment status, n (%)		
Full-time	9519 (76.6)	
Part-time or seasonal	183 (1.5)	
Early retiree	544 (4.4)	
Unknown/other	2181 (17.6)	
Individuals with ≥1 behavioral health comorbidity, n (%)	2923 (23.5)	
Sleep disorder	1222 (9.8)	
Depression	900 (7.2)	
Adjustment disorder	594 (4.8)	
Anxiety	594 (4.8)	
ADD/ADHD	314 (2.5)	
Bipolar disorder	73 (0.6)	
Substance abuse  OD attention deficit disorder: ADHD, attention-deficit/hyperactivity disorder	89 (0.7)	

ADD, attention deficit disorder; ADHD, attention-deficit/hyperactivity disorder.

#### Prescription Use

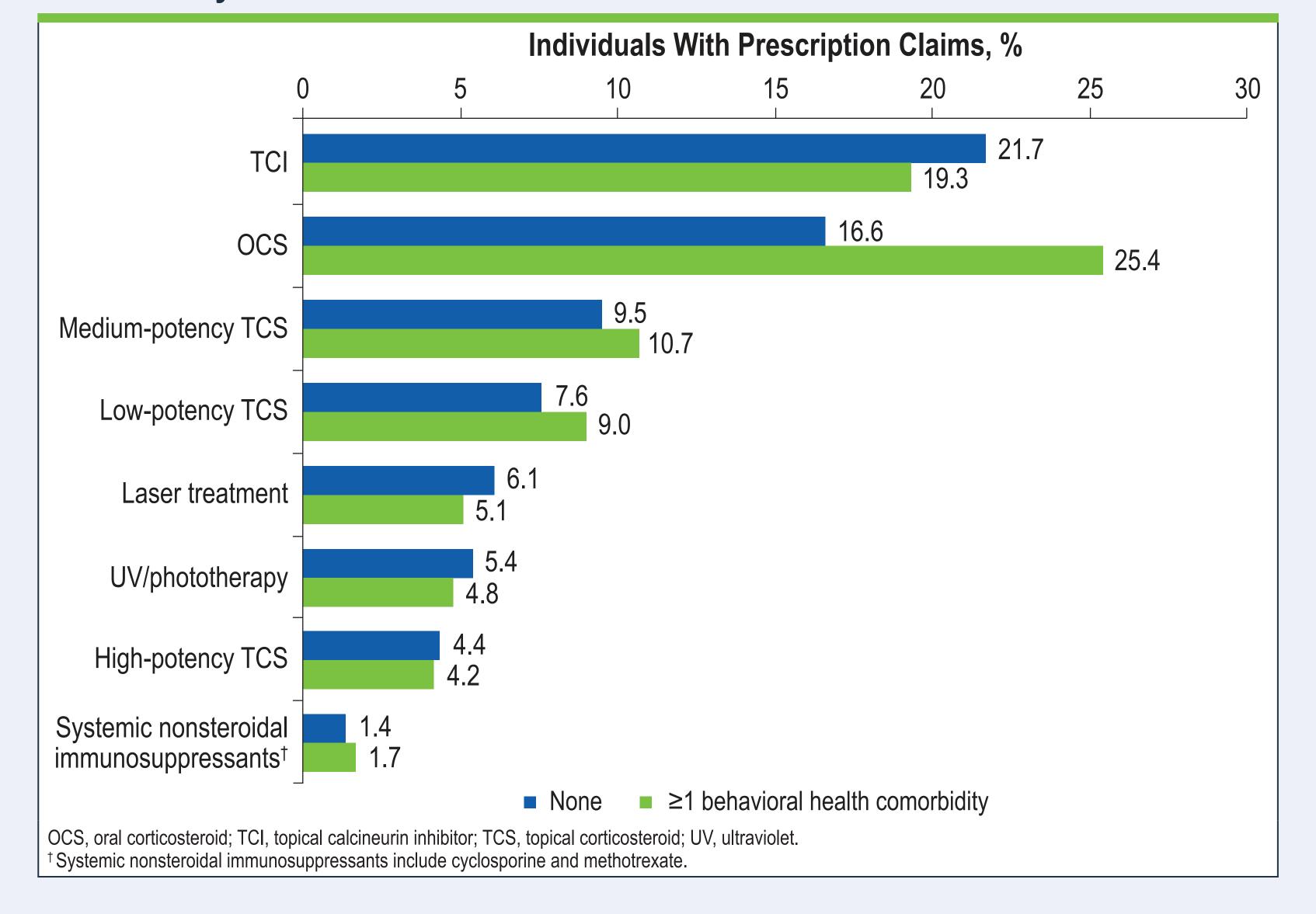
- Over half of individuals (53%) were seen by a dermatologist for any reason
- Nearly half (47%) had a pharmacy claim for vitiligo
- The most commonly prescribed therapies were topical calcineurin inhibitors (TCI; 21.1%), oral corticosteroids (OCS; 18.7%), and medium-potency topical corticosteroids (TCS; 9.8%; **Figure 1**)

Figure 1. Prescription Claims for Vitiligo Among All Individuals



• Prescription patterns were comparable between individuals with and without a behavioral health comorbidity (**Figure 2**)

Figure 2. Prescription Claims for Vitiligo Stratified by Behavioral Health Comorbidity Status



#### **HCRU** and Costs

- All 12,427 individuals had ≥1 outpatient medical visit
- Nearly all individuals (91%) had post-index prescription claims for any reason
- 15% of individuals visited the emergency room (ER) for any reason, and 4% were hospitalized with a mean (SD) stay of 5.3 (14.2) days

- Mean (SD) annual cost of healthcare for all individuals with vitiligo was \$11,943 (\$34,248)
- Utilization and cost of each healthcare resource for all individuals are shown in Table 2

Table 2. Healthcare Resource Utilization for All Individuals With Vitiligo

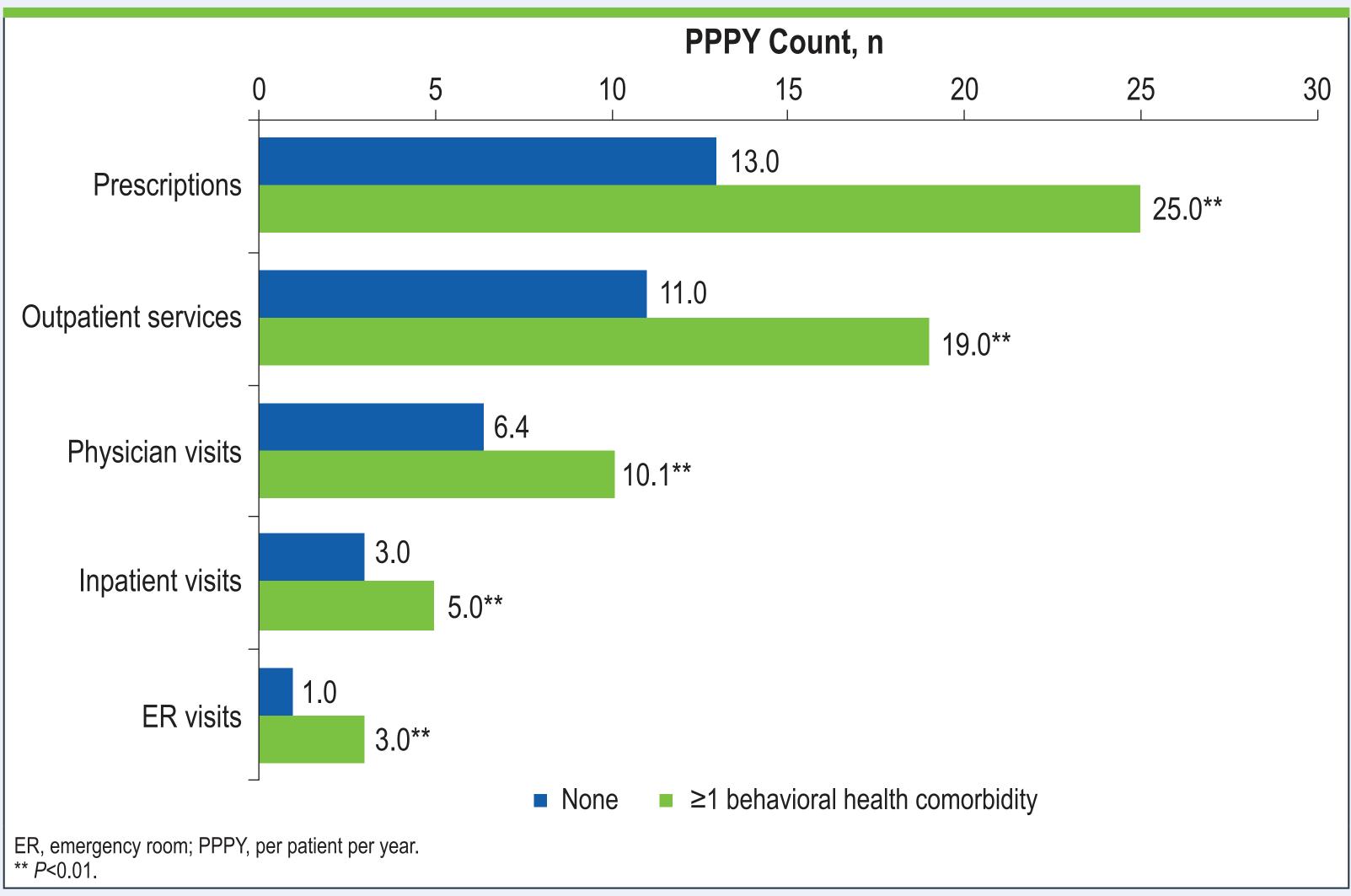
	Mean (SD) Use PPPY,	Mean (SD) Cost PPPY,
Healthcare Resource	n	\$
Physician visits	7 (6.1)	898 (872)
ER visits*	1.6 (1.2)	4067 (6236)
Inpatient visits*	1.2 (0.6)	42,091 (56,739)
Prescription claims	16 (18.6)	3191 (14,496)
Outpatient services	13 (18.3)	5559 (22,236)

ER, emergency room; PPPY, per patient per year.

Mean resource use and costs for individuals with ER or hospitalization.

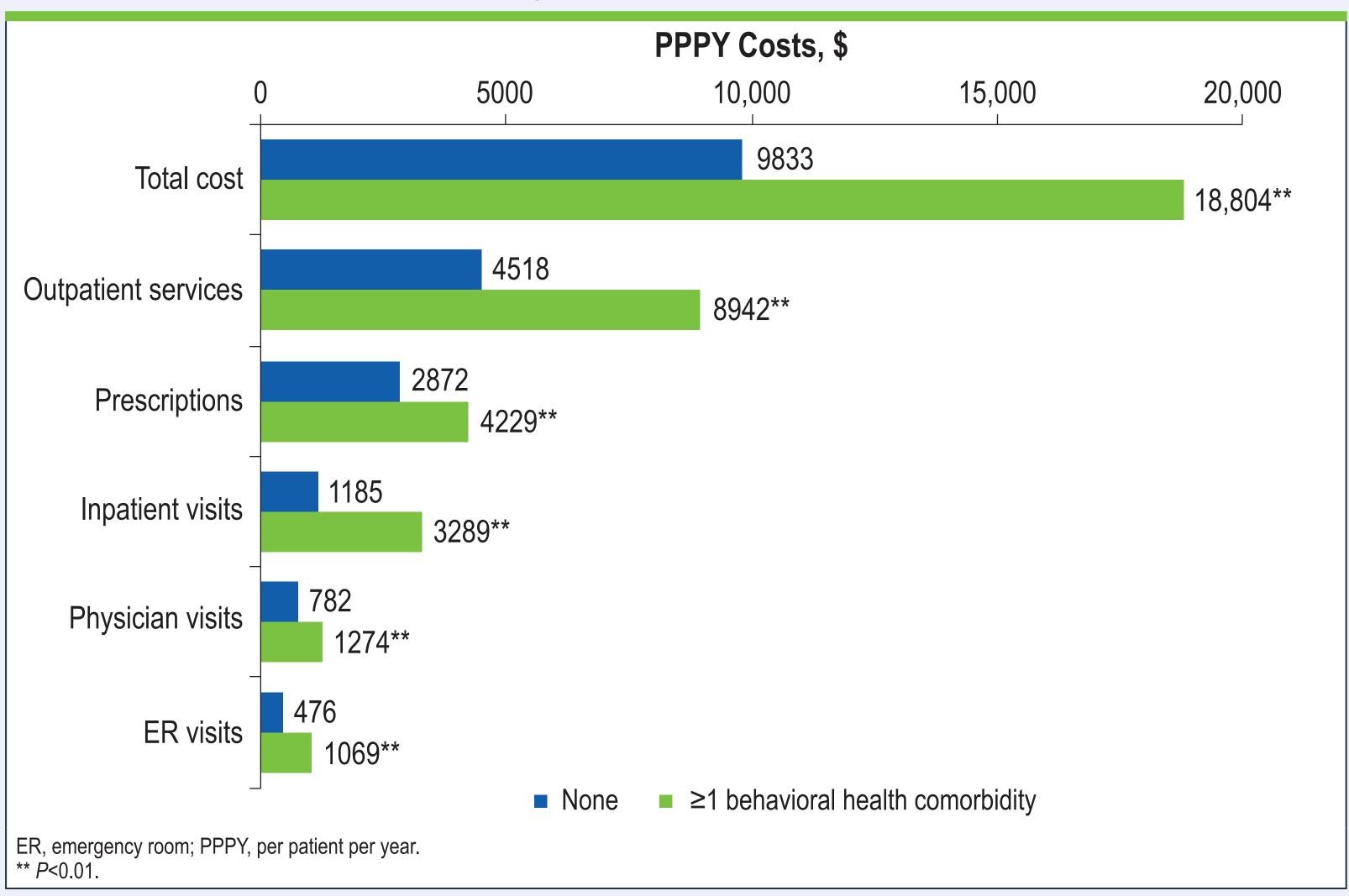
- More individuals with ≥1 behavioral health comorbidity vs those without were hospitalized (6.7% vs 3.1%), visited the ER (23.8% vs 12.5%), and had prescription claims (96.4% vs 91.4%)
- Individuals with ≥1 behavioral health comorbidity had significantly greater (*P*<0.01) HCRU compared with individuals without behavioral health comorbidities, including prescription claims (25.0 vs 13.0), outpatient services (19.0 vs 11.0), physician visits (10.1 vs 6.4), inpatient visits (5.0 vs 3.0), and ER visits (3.0 vs 1.0; Figure 3)</p>

Figure 3. Healthcare Resource Utilization Stratified by Behavioral Health Comorbidity Status in Individuals With Vitiligo



PPPY total healthcare expenditures (\$18,804 vs \$9833) and costs related to outpatient services (\$8942 vs \$4518), prescriptions (\$4229 vs \$2872), inpatient visits (\$3289 vs \$1185), physician visits (\$1274 vs \$782), and ER visits (\$1069 vs \$476) were significantly higher (*P*<0.01) among individuals with ≥1 behavioral health comorbidity vs those without (**Figure 4**)

# Figure 4. Healthcare Expenditures Stratified by Behavioral Health Comorbidity Status in Individuals With Vitiligo



# Limitations

- Limitations to the study are those consistent with retrospective, administrative claims analyses, including the potential for sampling bias, incomplete records, improper data entry, and differences in actual vs physician-directed medication use
- Certain variables (eg, ethnicity/race, Fitzpatrick skin type, body surface area) were not available
- Patient out-of-pocket expenditures were not available
- The direct, individual, and societal costs of vitiligo may be underreported in US claims databases

### Conclusions

- In this US claims database, nearly 1 in 4 individuals with vitiligo were diagnosed with ≥1 behavioral health condition
- Individuals with vitiligo and ≥1 behavioral health condition incurred greater healthcare consumption and expenditures vs those without diagnosed behavioral health conditions

#### Disclosures

VNJ, JHL, and ABN are employees and shareholders of Incyte Corporation. SD is a consultant to Incyte Corporation.

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