



# Clinical Characteristics of Generalized Pustular Psoriasis Flares in the Real-World Setting

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**GPP patients continue to experience frequent flares with current traditional and off-label therapies in the real-world setting; more active disease, gender, race, ethnicity, and history of systemic infection are associated with experiencing a flare**

## INTRODUCTION

- Generalized pustular psoriasis (GPP) is a rare, chronic, often unpredictable, severe multisystemic inflammatory skin disease<sup>1,2</sup>
- In the acute phase, patients with GPP experience flares – unpredictable episodes of extensive, sterile pustular eruptions – often accompanied by systemic symptoms<sup>1,2</sup>
- Accurate patient cohort identification from real-world data is key to performing accurate epidemiologic research<sup>3</sup>; however, GPP flares often go unreported because there is no specific procedure code for them in structured electronic health records (EHRs)
- As such, GPP patient characteristics and clinical characteristics of GPP flares in the real-world setting are not well characterized

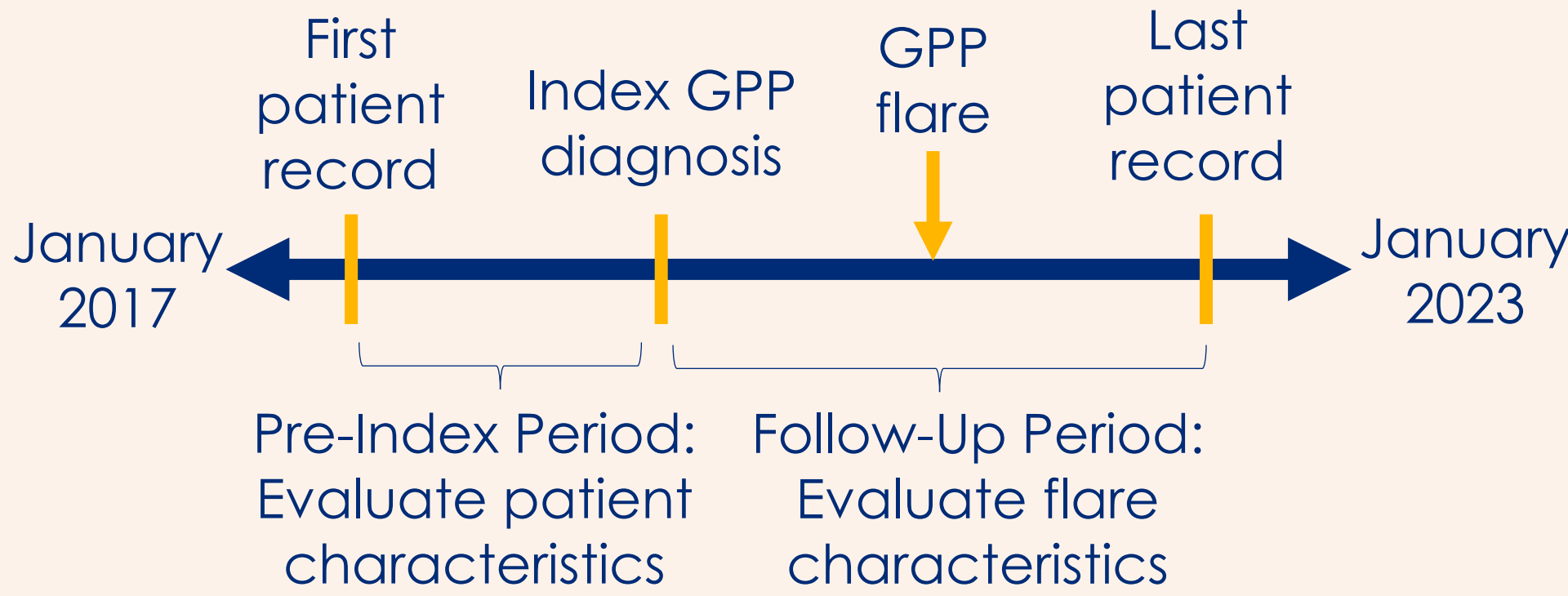
## PURPOSE

- To describe underlying demographic, clinical, and disease activity characteristics of GPP patients by flare status in the outpatient dermatology setting
- To characterize timing and frequency of GPP flares

## METHODS

- Outpatient EHR data from 6 specialty dermatology networks in the OMNY Health real-world data platform from 2017 to January 2023 were accessed
- Patients were included if they met the following criteria\*:
  - ≥ 1 GPP diagnosis code (International Classification of Diseases, 10th Revision: L40.1)
  - ≥ 12 years of age at first GPP diagnosis code
  - ≥ 30 days of data before the first GPP diagnosis code
  - Accessible clinical notes
- Patients were indexed at their first GPP diagnosis code and followed until their last available record (Figure 1)
- GPP flares in the follow-up period were identified based on an algorithm derived from a combination of natural language processing of clinical notes and the presence of structured procedure codes indicative of moderate or complex disease management<sup>4</sup>

Figure 1: Study Design Schematic



**Patients were required to have at least 30 days of data in the pre-index period to be included in analyses**

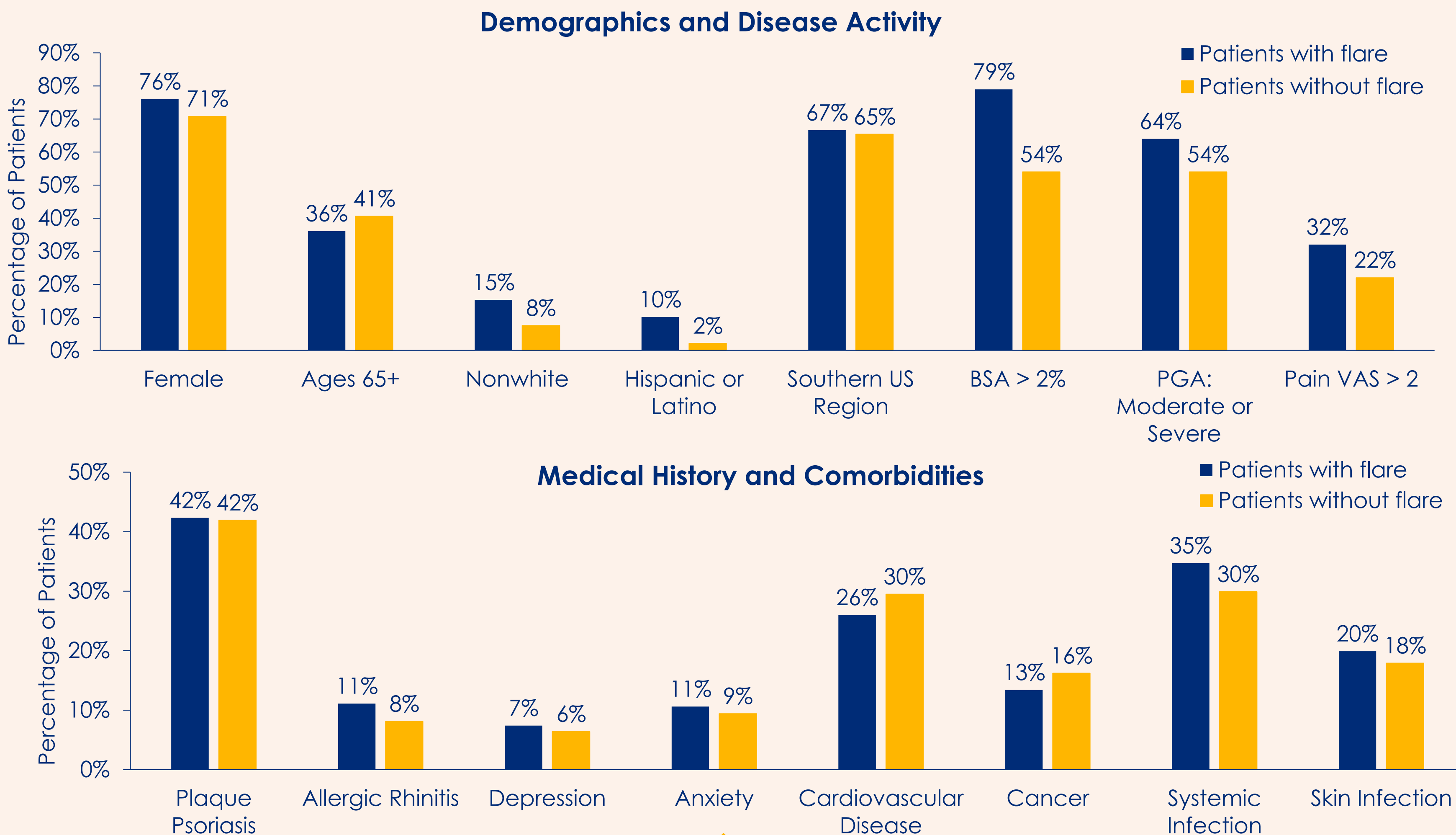
- Flare duration was assumed to be 6 weeks, which is in line with previous clinical observations<sup>5</sup>
- Patient demographic, clinical, and disease activity characteristics at index diagnosis were summarized
- GPP flare characteristics in the follow-up period were described

\*53% of the study population had only 1 GPP diagnosis, and 47% had more than 1 GPP diagnosis code. Identification criteria may vary across publications.

## RESULTS

- Of 7.4 million specialty dermatology network patients, 2,154 had ≥ 1 GPP diagnosis code, and 638 patients met remaining eligibility criteria; mean follow-up time was 1.5 years
  - Average age was 58 years (standard deviation: 15 years), and most patients were female (74%), white (88%), and not Hispanic or Latino (93%)
  - Previous treatments at index included topical steroids (85%), other topical agents (38%), other systemic agents (14%), oral steroids (13%), and biologics (11%)
  - Mean (median) body surface area was 11% (5%); 60% of patients had moderate or severe physician global assessment; 47% of patients reported pain due to GPP
- Of the 638 study patients, 404 (63%) had at least 1 flare, and 106 had 2 or more flares
- Patient characteristics by flare status in the follow-up period are presented in Figure 2

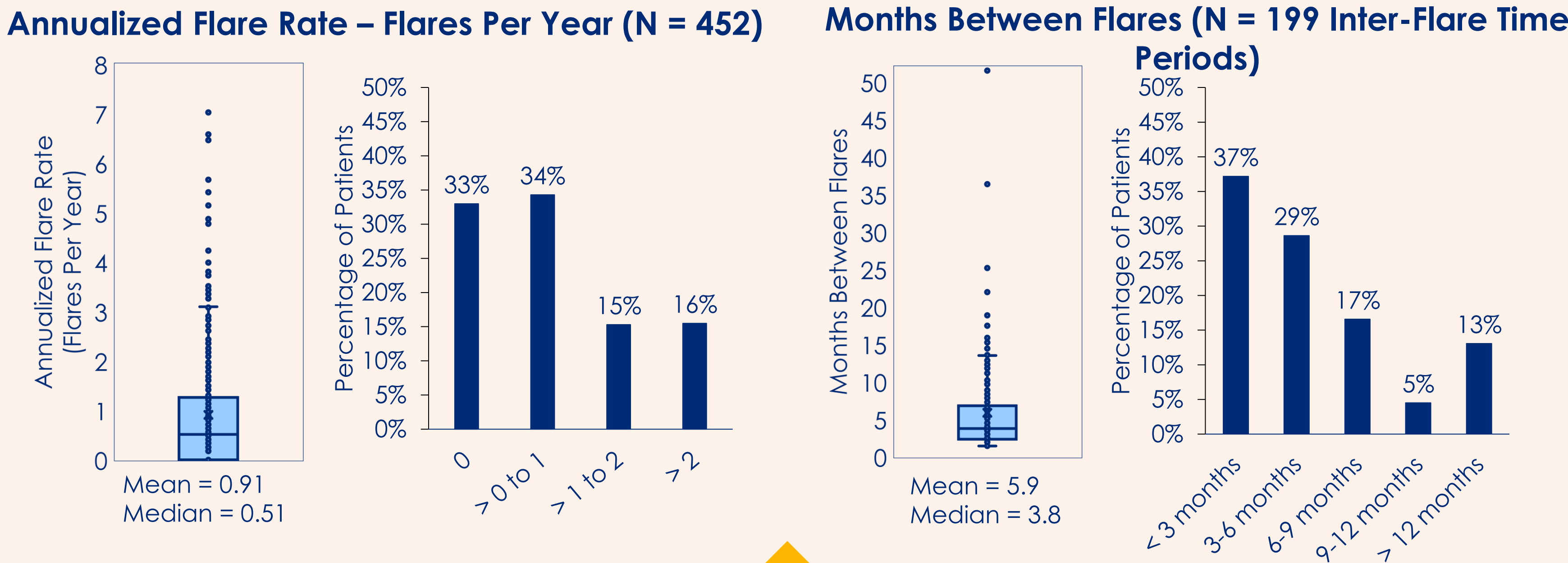
Figure 2: Patient Characteristics at Index GPP Diagnosis by Flare Status



**Patients who subsequently experienced a GPP flare were more likely to be female, younger, nonwhite, Hispanic or Latino, have more active underlying disease, and history of systemic infection**

- Mean (median) annualized flare rate (i.e., flares per year) was 0.91 (0.51) among patients with ≥ 90 days of follow-up data. Among only those with flares, mean (median) annualized flare rate was 1.40 (1.23). GPP flare characteristics are presented in Figure 3

Figure 3: Flare Characteristics Among Patients with ≥ 90 Days of Follow-Up Data



**Over 30% of GPP patients experienced more than 1 flare per year; mean (median) time between flares was 5.9 (3.8) months, and 66% of patients had a subsequent flare within 6 months of the preceding flare**

## CONCLUSIONS

- Results provide insights into real-world clinical characteristics associated with GPP flare
- GPP is a chronic disease. Almost two-thirds of GPP patients experienced at least 1 flare in the real-world setting, most of whom experienced multiple flares, usually within 6 months
- Patients with greater body surface area percent, physician global assessment of severity, and pain were more likely to experience a subsequent flare
- Demographic and medical history variables were also associated with GPP flare
- For most patients, GPP remains uncontrolled with current traditional therapies as evidenced by frequently occurring flares after index diagnosis
- This dataset is limited to outpatient EHR data from specialty dermatology networks and does not include inpatient data. Therefore, the flare rate may be underestimated.

**Abbreviations**  
BSA = body surface area; EHR = electronic health record; GPP = generalized pustular psoriasis; PGA = physician global assessment; US = United States

**References**  
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