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DEMOGRAPHIC CHARACTERISTICS OF PATIENTS INITIATING TOPICAL COMBINATION THERAPIES FOR PLAQUE PSORIASIS IN CANADA: A CLAIMS-BASED ANALYSIS

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BACKGROUND

- Psoriasis is an immune-mediated chronic skin disease that affects approximately 3% of Canadians, with plaque psoriasis (PsO) being the most common subtype[1,2,3].
- In addition to traditional topical monotherapies for PsO, available topical combination products in Canada include halobetasol propionate plus tazarotene (HP/TAZ as lotion) and betamethasone dipropionate plus calcipotriol (BD/CAL as ointment, gel or foam formulations).
- HP/TAZ is the newest product in the market with the notice of compliance (NOC) issued by Health Canada in June 2020[4].

OBJECTIVES

- This research aims to describe the demographic characteristics of Canadian patients who initiated one of the topical combination products, specifically to understand patients' topical treatment history before initiating a topical combination product.

METHODS

Study Design and Data Source:

- By utilizing IQVIA's longitudinal Private Drug Plan database (PDP), patients who initiated any of four products (HP/TAZ, BD/CAL ointment, BD/CAL gel and BD/CAL foam) from August 1st, 2020 to May 31st, 2021 were selected and indexed on their first observed claim (**Figure 1**).
- A 6-month look-back period prior to the index date was used to ensure patients have been enrolled in their drug plan for at least 6 months.
- An up to 3-year look back period prior to the index date was used to ensure patients were naïve to the index product, oral drugs used for PsO treatment and biologics used for the chronic inflammatory diseases (RD, PsO, IBD and asthma), migraine, diabetes and ophthalmic disease.
- Total selected patients were followed for up to 6 months from the index date and further grouped into cohort 1 with post-index topical treatment and cohort 2 without post-index topical treatment. Post-index topical treatment was defined as having more than one claim for any PsO topical drug during the follow up period after index date.
- In addition, a subset of total selected patients who were active in the drug plan for a full 3 years prior to index were generated and analyzed to observe their prior topical treatment.

Figure 1. Schematic of Study Design and Cohort Generation
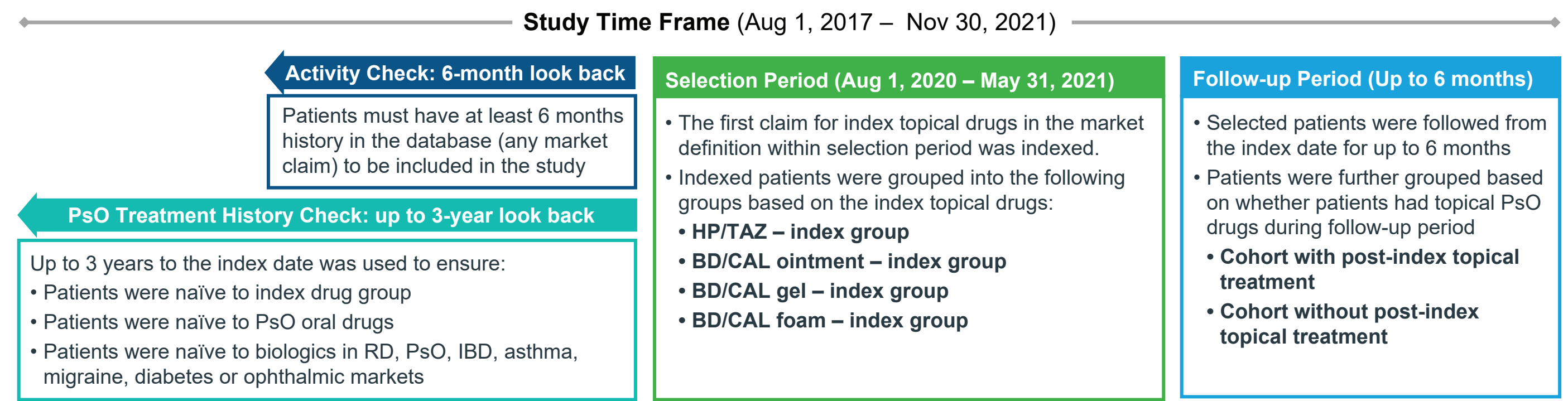

Study Analysis:

- Demographic characteristics (age, gender, polypharmacy, prescribing specialties at index and index product) among total selected patients and patients in each cohort were reported.
- Polypharmacy was defined as the number of EphATC (level 2) classes based on patient's claims for any drug within the 6-month look-back period.
- Among the subset of patients who were active in the drug plan for a full 3 years prior to index, patient prior topical treatment during the 3-year look-back period was reported, including:
  - Proportion of patients with prior experience on topical treatment.
  - Patient distribution by number of topical therapies, assessed at a molecule level.

RESULTS

Cohort Generation:

- A total of 23,084 patients were selected who initiated one of the topical combination products, without PsO oral drugs and biologics of interests, in the up to 3 years look back period. Attrition table for the selected population is shown in **Figure 2**.
  - During the 6-month follow-up period, 9,935 (43.0%) patients continued topical treatment after index (cohort 1) and 13,149 (57.0%) patients had no post-index topical treatment (cohort 2).
- In addition, a subset of 13,836 patients who were active in the drug plan for a full 3-year period prior to index were generated and analyzed for their prior topical treatment.

Figure 2. Patient Selection
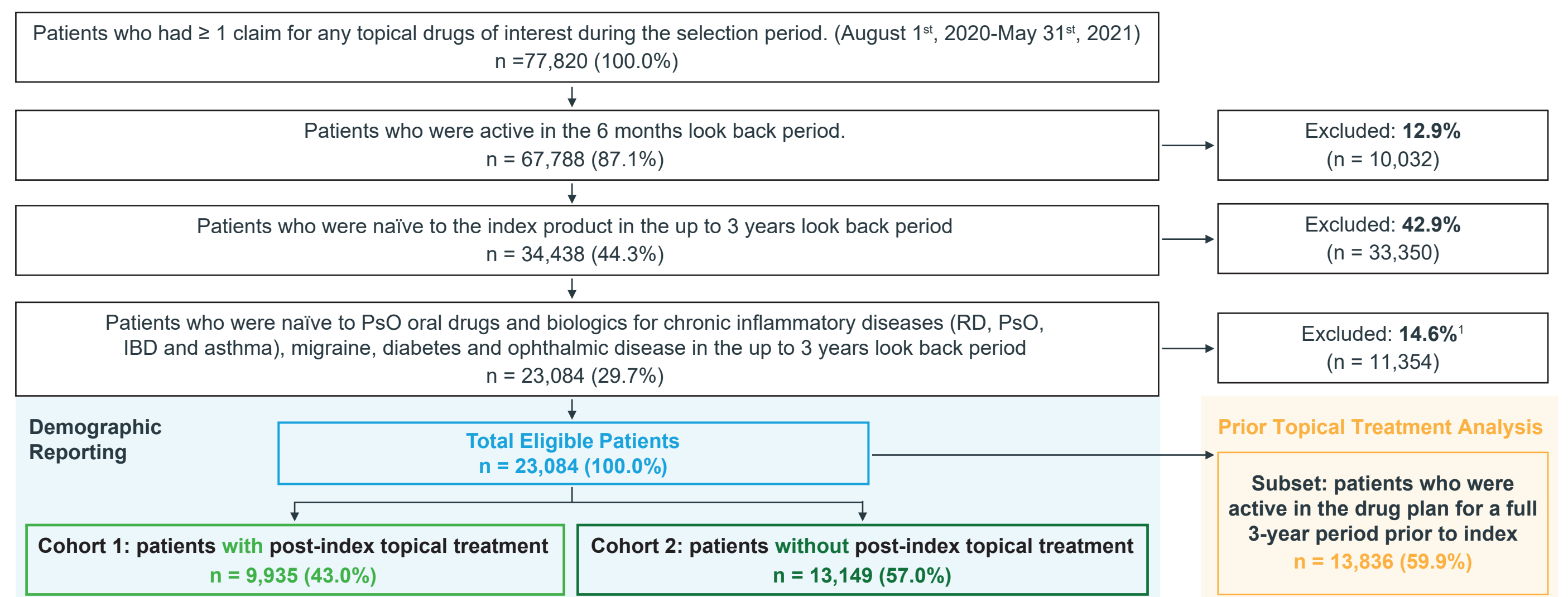
Demographics:

- A total of 23,084 eligible patients were selected in this study and indexed on HP/TAZ (14.6%), BD/CAL ointment (24.6%, including generic), BD/CAL gel (29.8%), and BD/CAL foam (31.0%) shown in **Figure 3**.
  - A higher proportion of HP/TAZ- and BD/CAL foam-index patients were observed in cohort 1 (patients with post-index topical treatment) compared to cohort 2 (HP/TAZ: 16.0% vs. 13.4%. BD/CAL foam: 36.9% vs. 26.6%).
- The demographic characteristics of total eligible patients and patients in Cohort 1 and Cohort 2 are reported in **Table 1**.
  - Total patients had an average age of 47 with 81.3% in the age range of 30-69 years old.
  - 52.6% of total patients were female (Cohort 1: 50.3%, Cohort 2: 54.4%).
  - 80.8% of total patients had <5 concomitant drug classes (Cohort 1: 77.3%, Cohort 2: 83.5%).
  - 45.0% of total patients had index product prescribed from a General Practitioner/Family Medicine (GPFM) specialty (Cohort 1: 39.2%, Cohort 2: 49.3%) and 26.2% from Dermatologist specialty (Cohort 1: 31.1%, Cohort 2: 22.4%).

RESULTS (CONTINUED)

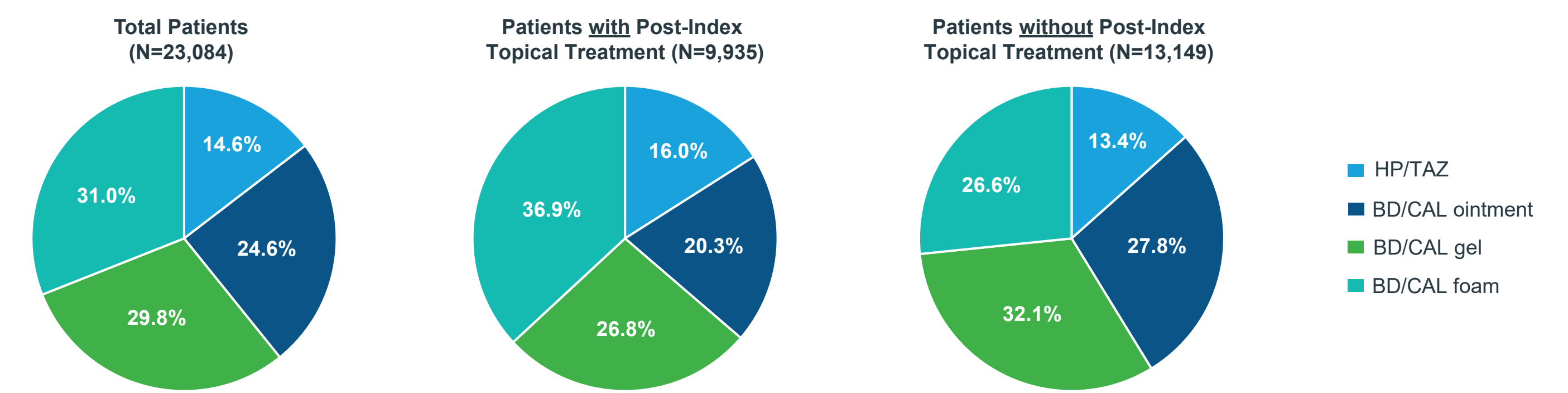### Figure 3. Patient Distribution by Index Group

Table 1. Patients Demographics

Category	Demographics	Patients, N(%)		
		Total	Cohort 1: Patients with post-index Topical Treatment	Cohort 2: Patients without post-index Topical Treatment
Total	Patients	23,084 (100%)	9,935 (100%)	13,149 (100%)
Age at Index	Mean (SD)	46.8 (15.4)	46.9 (15.6)	46.7 (15.2)
	Median (IQR)	48 (36, 58)	49 (36, 59)	48 (36, 58)
Age Group	0-17	1,002 (4.3%)	479 (4.8%)	523 (4.0%)
	18-29	2,172 (9.4%)	909 (9.1%)	1,263 (9.6%)
	30-49	9,115 (39.5%)	3,764 (37.9%)	5,351 (40.7%)
	50-69	9,645 (41.8%)	4,293 (43.2%)	5,352 (40.7%)
	70-84	1,041 (4.5%)	430 (4.3%)	611 (4.6%)
	85+	109 (0.5%)	60 (0.6%)	49 (0.4%)
Gender	Female	12,147 (52.6%)	4,999 (50.3%)	7,148 (54.4%)
	Male	10,887 (47.2%)	4,918 (49.5%)	5,969 (45.4%)
	Unknown	50 (0.2%)	18 (0.2%)	32 (0.2%)
Index Physician Specialties	Dermatology	6,056 (26.2%)	3,108 (31.3%)	2,948 (22.4%)
	Rheumatology	65 (0.3%)	23 (0.2%)	42 (0.3%)
	Internal Medicine	154 (0.7%)	63 (0.6%)	91 (0.7%)
	GPFM	10,383 (45.0%)	3,898 (39.2%)	6,485 (49.3%)
	Others	535 (2.3%)	261 (2.6%)	274 (2.1%)
	Unknown	5,891 (25.5%)	2,582 (26.0%)	3,309 (25.2%)
Polypharmacy	0-4	18,659 (80.8%)	7,675 (77.3%)	10,984 (83.5%)
	5-7	3,058 (13.2%)	1,502 (15.1%)	1,556 (11.8%)
	8-10	1,013 (4.4%)	558 (5.6%)	455 (3.5%)
	11-13	255 (1.1%)	141 (1.4%)	114 (0.9%)
	14+	85 (0.4%)	50 (0.5%)	35 (0.3%)
	Unknown	14 (0.1%)	9 (0.1%)	5 (0.0%)

Prior Topical Treatment History:

- In a subset analysis, 13,836 patients with a full 3-year claims history prior to index were assessed for each index product
  - 54.6% of patients indexing on HP/TAZ had topical therapies prior to index, compared to those indexed on BD/CAL ointment (35.9%), gel (33.8%), and foam (46.1%) shown in **Figure 4**.
  - Among patients with prior topical therapies, 58.1% of HP/TAZ-indexed patients had ≥2 previous molecules for topical therapy compared to BD/CAL ointment (36.8%), gel (38.4%), and foam (45.0%) shown in **Figure 5**.

Figure 4. Patient Distribution by Experience to Topical Therapies During 3-year Period Prior to Index
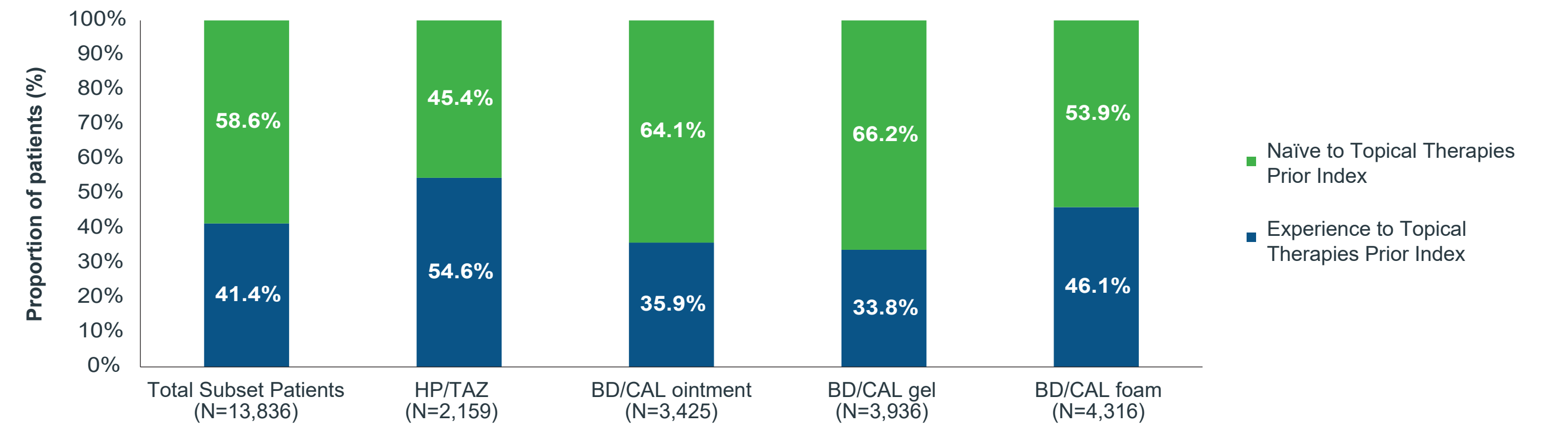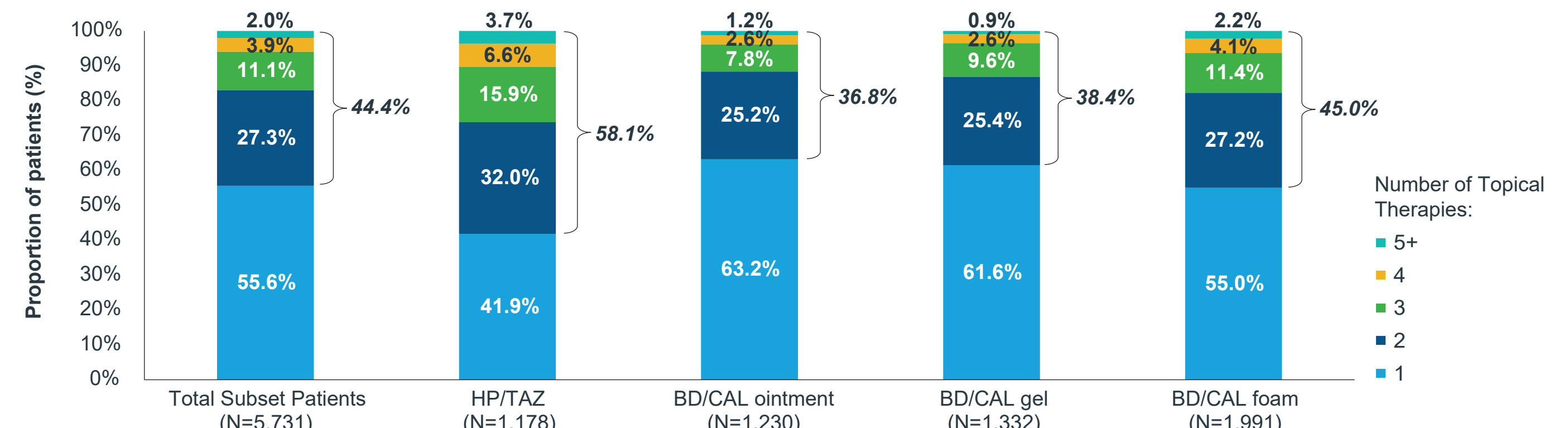

Figure 5. Patients Distribution by Number of Topical Therapies During 3-year Period Prior to Index

CONCLUSIONS

- A total of 23,084 eligible patients were selected with majority of patients being female, an average age of 47, had their index topical drug prescribed from GPFM and had less than 5 concomitant drug classes.
- 14.6% of total patients were indexed on HP/TAZ and there were higher proportion of HP/TAZ- and BD/CAL foam-index patients with post-index topical treatment.
- Among patients with a full 3-year claim history prior to index, HP/TAZ-index group had the highest proportion of patients who were experienced to topical therapies prior to index and highest proportion of patients with ≥2 previous molecules for topical therapy prior to index.
- Patients indexed on HP/TAZ are more experienced on topical therapies at time of initiation than other combination products. However, given the recent availability of HP/TAZ, the need remains to understand the drug utilization among a larger cohort of PsO patients with a longer follow-up period.

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