Real-world, long-term treatment patterns of commonly used biologics in Canadian patients with moderate-to-severe chronic plaque psoriasis

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Supplemental Tables

Supplemental Table 1. Summary of PsO Biologics Canadian On-Label Dosing

| PsO Biologic | Canadian On-Label Dosing | Product Entry on the Canadian Market for PsO Treatment |
|--------------|--------------------------|-------------------------------------------------------|
| Etanercept   | 50 mg twice weekly for 3 months, then 50 mg ew | 2004 |
| Infliximab   | 5 mg/kg wk 0, 2, 6 then Q8W | 2006 |
| Adalimumab   | 80 mg wk 0, 40 mg Q2W starting at wk 1 | 2008 |
| Ustekinumab  | 45 mg for <100 kg; 90 mg for >100 kg; wk 0, 4 then Q12W; for patients who inadequately respond to Q12W, consideration may be given to treating Q8W | 2009 |
| Secukinumab  | 300 mg wk 0, 1, 2, 3, and 4 then monthly dosing | 2015 |
| Ixekizumab   | 160 mg wk 0, then 80 mg wk 2, 4, 6, 8,10,12 then 80 mg Q4W | 2016 |
| Brodalumab   | 210 mg wk 0, 1, 2 then Q2W | 2018 |
| Gusekumab    | 100 mg wk 0, 4 then Q8W | 2018 |

EW, every week; PsO, psoriasis; Q2W, every 2 weeks; Q4W, every 4 weeks; Q8W, every 8 weeks; Q12W, every 12 weeks; wk, week.
### Supplemental Table 2. Non-biologic treatments for psoriasis taken by more than 1% of patients in decreasing order - By WHO-DD

| ATC Chemical Subgroup                                      | Patients \((n = 1149)\) | Events \((n = 5315)\) |
|-------------------------------------------------------------|---------------------------|------------------------|
| All non-biologic treatments                                 | 1049 (91.3%)              | 5315 (100.0%)          |
| Other antipsoriatics for topical use                        |                           |                        |
| Other immunosuppressants                                   | 506 (44.0%)               | 764 (14.4%)            |
| Corticosteroids, potent (group III)                        | 421 (36.6%)               | 802 (15.1%)            |
| Corticosteroids, very potent (group IV)                    | 365 (31.8%)               | 525 (9.9%)             |
| All other therapeutic products - Not available              | 315 (27.4%)               | 449 (8.4%)             |
| Retinoids for treatment of psoriasis                       | 263 (22.9%)               | 317 (6.0%)             |
| Corticosteroids, weak (group I)                            | 159 (13.8%)               | 184 (3.5%)             |
| Selective immunosuppressants                               | 145 (12.6%)               | 159 (3.0%)             |
| Calcineurin inhibitors                                     | 130 (11.3%)               | 202 (3.8%)             |
| Agents for dermatitis, excluding corticosteroids            | 119 (10.4%)               | 148 (2.8%)             |
| Corticosteroids, potent, other combinations                | 108 (9.4%)                | 122 (2.3%)             |
| Corticosteroids, moderately potent (group II)              | 73 (6.4%)                 | 83 (1.6%)              |
| Tars                                                        | 68 (5.9%)                 | 93 (1.7%)              |
| Folic acid and derivatives                                 | 44 (3.8%)                 | 49 (0.9%)              |
| Glucocorticoids                                            | 44 (3.8%)                 | 100 (1.9%)             |
| Imidazole and triazole derivatives                          | 39 (3.4%)                 | 46 (0.9%)              |
| Corticosteroids, dermatological preparations – Not available| 30 (2.6%)                 | 30 (0.6%)              |
| Other antifungals for topical use                           | 29 (2.5%)                 | 29 (0.5%)              |
| Salicylic acid preparations                               | 23 (2.0%)                 | 25 (0.5%)              |
| Uncoded – Not available                                    | 21 (1.8%)                 | 21 (0.4%)              |
| Agents for dermatitis, excluding corticosteroids – Not available| 20 (1.7%)                 | 24 (0.5%)              |
| Soft paraffin and fat products                              | 16 (1.4%)                 | 17 (0.3%)              |
| Other antibiotics for topical use                           | 14 (1.2%)                 | 15 (0.3%)              |
| Corticosteroids, very potent, other combinations            | 14 (1.2%)                 | 18 (0.3%)              |
| Medicated shampoos                                         | 14 (1.2%)                 | 15 (0.3%)              |
| Piperazine derivatives                                      | 13 (1.1%)                 | 14 (0.3%)              |
| Corticosteroids, plain                                     | 13 (1.1%)                 | 13 (0.2%)              |

ATC Chemical Subgroup "Not Available" meant that medication's chemical subgroup was not available in WHO-DD. Concomitant Medications were coded using WHO-DD C3 SEP 2019. ATC, Anatomical Therapeutic Chemical; WHO-DD, World Health Organizations Drug Dictionary
### Supplemental Table 3. Biologic treatments for psoriasis - By WHO-DD

| ATC therapeutic class      | ATC chemical subgroup | Patients (n = 1149) | Events (n = 2659) |
|----------------------------|-----------------------|---------------------|-------------------|
| All biologic treatments    |                       | 1149 (100.0%)       | 2659 (100.0%)     |
| Antineoplastic agents      |                       |                     |                   |
| Monoclonal antibodies      |                       | 5 (0.4%)            | 5 (0.2%)          |
| Protein kinase inhibitors  |                       | 1 (0.1%)            | 1 (0.0%)          |
| Antipsoratics              |                       |                     |                   |
| Not available              |                       | 4 (0.3%)            | 4 (0.2%)          |
| Immunosuppressants         |                       |                     |                   |
| Interleukin inhibitors     |                       | 818 (71.2%)         | 1483 (55.8%)      |
| Selective immunosuppressants |                     | 42 (3.7%)          | 52 (2.0%)         |
| TNF-α inhibitors           |                       | 609 (53.0%)         | 1108 (41.7%)      |
| Investigational drug       |                       | 5 (0.4%)            | 6 (0.2%)          |
| Not available              |                       | 5 (0.4%)            | 6 (0.2%)          |

Biologic treatments were coded using WHO-DD C3 September 2019.

ATC, anatomical therapeutic chemical; TNF, tumor necrosis factor; WHO-DD, World Health Organisation Drug Dictionary.
Supplemental Table 4. Line of biologic treatments for psoriasis

| Number of biologic treatments | FAS  
|------------------------------|-----------------|
|                              | \( n = 1149 \)  |
| Mean (SD)                    | 1.4 (0.86)      |
| Median                       | 1.0             |
| Min, max                     | 1, 7            |

| Lines of treatment | FAS  
|--------------------|-----------------|
|                    | \( n = 1149 \)  |
| 1                  | 833 (72.5%)     |
| 2                  | 190 (16.5%)     |
| 3                  | 85 (7.4%)       |
| 4                  | 29 (2.5%)       |
| 5                  | 5 (0.4%)        |
| 6                  | 5 (0.4%)        |
| 7                  | 2 (0.2%)        |

FAS, full analysis set; SD, standard deviation.
Supplemental Figure Legends

**Supplemental Figure 1.** Time to first treatment change overall; change including switching, discontinuation, dose escalation, and interval change (both increasing and decreasing). CI, confidence interval.

**Supplemental Figure 2.** Time to first treatment change; change including switching, discontinuation, dose escalation, and interval change (both increasing and decreasing) – Sensitivity analysis. (a) Overall. (b) By biologics as first line of treatment.

**Supplemental Figure 3.** Drug survival by biologic. Drug survival defined as the number of days until discontinuation of a biologic. Diamond symbols indicate censored patients; treatment for these patient was ongoing at the time of chart review. Brodalumab is not shown due to the low number of patients using it (n = 4). NA, not available.
Supplemental Figure 1
Supplemental Figure 3

The graph shows the percentage of patients (%) over months for different biologic treatments. The treatments include:
- **Adalimumab**: Median Time (95% CI) = 20.4 (9.7, 46.2) months
- **Etanercept**: Median Time (95% CI) = 18.7 (10.7, 49.9) months
- **Guselkumab**: Median Time (95% CI) = Not Estimable (N=434)
- **Infliximab**: Median Time (95% CI) = 32.3 (25.7, 46.2) months
- **Infliximab**: Median Time (95% CI) = Not Estimable (N=177)
- **Secukinumab**: Median Time (95% CI) = Not Estimable (N=210)
- **Ustekinumab**: Median Time (95% CI) = Not Estimable (N=371)