Developments in Psoriasis Management
Psoriasis (PsO) is a chronic inflammatory disease that can impact patients’ disease-related quality of life. Patients may avoid treatment due to frustration.

PsO is a chronic, inflammatory disease with skin manifestations thought to result from an uncontrolled immune response. PsO has a substantial negative impact on patients’ emotional and social well-being. Itchy lesions and lesions affecting the soles, palms, nails, or scalp are particularly bothersome. Evidence suggests psoriasis patients are at a higher risk for comorbidities such as obesity and heart disease, which can add to their overall disease burden.

Patients May Avoid Treatment Due to Frustration

Although systemic treatments are effective in treating psoriasis (PsO), many patients discontinue treatment due to dissatisfaction with existing therapies.*

In the MAPP survey,† most patients whose lesions were ≥4 times the size of their palm reported being on no treatment or topical treatment only.

In a separate physician choice survey,‡ dermatologists reported that 6 of 10 patients with moderate to severe PsO have never received systemic therapy, although an estimated 2/3 would benefit.**

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* 57% and 45% discontinued oral therapies (n=820) and biologic therapies (n=389), respectively.
† The Multinational Assessment of Psoriasis and Psoriatic Arthritis (MAPP) survey is the first large-scale multinational survey of the prevalence of psoriasis and psoriatic arthritis. It was based on samplings of households in the United States, Canada, France, Germany, Italy, Spain, and the United Kingdom; 3426 patients and 781 physicians were surveyed in North America and Europe.
‡ Dermatology choice model survey assessing clinical decision drivers and activation levers in the treatment of psoriasis (N=151 dermatologists).
Reported Dissatisfaction With Available Treatment Options\textsuperscript{13,*}

Many patients discontinue systemic therapy because of safety & tolerability concerns\textsuperscript{13}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Oral Systemics & Biologics \\
\hline
\textbf{43\%} & \textbf{25\%} \\
\textit{N = 820} & \textit{N = 389} \\
\hline
\end{tabular}
\end{table}

50\% of patients found therapy burdensome\textsuperscript{13}
### Real-World Analysis Revealed a Marked Increase in Healthcare Utilization and Costs

**Within 1 year of initiating biologic therapy, 25% of patients completely discontinue treatment**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Switchers</th>
<th>Non-switchers</th>
<th>Pure discontinuers</th>
<th>Re-initiators: Same therapy</th>
<th>Re-initiators: Different therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total healthcare costs per patient*</td>
<td>38,529 (24,328)</td>
<td>32,822 (15,913)</td>
<td>21,775 (25,483)</td>
<td>29,420 (18,287)</td>
<td>39,241 (29,266)</td>
</tr>
<tr>
<td>All-cause hospitalization cost</td>
<td>1,713 (12,529)</td>
<td>911 (4,663)</td>
<td>3,105 (14,425)</td>
<td>998 (7,024)</td>
<td>3,213 (14,342)</td>
</tr>
<tr>
<td>All-cause outpatient service cost*</td>
<td>6,562 (11,802)</td>
<td>4,622 (9,788)</td>
<td>6,723 (16,328)</td>
<td>4,802 (8,200)</td>
<td>11,222 (18,640)</td>
</tr>
<tr>
<td>All-cause ER visit cost*</td>
<td>447 (1301)</td>
<td>266 (1,001)</td>
<td>448 (1,3004)</td>
<td>310 (1,057)</td>
<td>1,206 (7,335)</td>
</tr>
<tr>
<td>All-cause physician office visit cost*</td>
<td>795 (522)</td>
<td>668 (558)</td>
<td>775 (918)</td>
<td>681 (538)</td>
<td>896 (701)</td>
</tr>
<tr>
<td>All medication cost*</td>
<td>30,303 (12,935)</td>
<td>27,313 (11,706)</td>
<td>12,061 (8,254)</td>
<td>23,619 (14,826)</td>
<td>24,837 (13,297)</td>
</tr>
<tr>
<td>Lab test cost</td>
<td>50 (282)</td>
<td>36 (298)</td>
<td>148 (850)</td>
<td>64 (1,153)</td>
<td>377 (2,047)</td>
</tr>
<tr>
<td>Radiotherapy cost</td>
<td>760 (5002)</td>
<td>415 (2,076)</td>
<td>1,180 (9,672)</td>
<td>411 (1,090)</td>
<td>941 (2,075)</td>
</tr>
</tbody>
</table>

* Retrospective claims database study, using data from the MarketScan® commercial and Medicare databases from October 2008 to March 2011. Patient inclusion criteria included primary psoriasis diagnosis (ICD-9 CM 696.1 or 696.8 codes). Claims databases do not provide any information regarding the underlying reasons for therapy changes or discontinuations. Cost in US dollars, mean (standard deviation); *P* < .05 for switchers compared with non-switchers.

Patients who discontinue therapy cost plans an average of **$21,775 annually**
PDE4 is a Key Intracellular Enzyme Involved in Modulating the Immune Response in Psoriasis

Over the last several decades, research and treatment have focused on extracellular cytokines involved in psoriasis. Recent research, however, has identified important signaling molecules within immune cells. One such molecule, phosphodiesterase-4 (PDE4), is a key intracellular enzyme involved in modulating immune cell activity in psoriasis.

PDE4 is the predominant intracellular cAMP-degrading enzyme within a variety of inflammatory cells, including eosinophils, neutrophils, macrophages, T cells, and monocytes\(^{16}\)

By breaking down cAMP into its inactive form AMP, PDE4 promotes immune cell activation and the release of proinflammatory cytokines, while indirectly decreasing the production of anti-inflammatory cytokines.
References

15. Mallya U, Lahoz R, Qureshi A. American Academy of Dermatology 72nd Annual Meeting; March 21-25, 2014; Denver, CO.