Estimation of Annual Indirect Costs Associated With Moderate-to-Severe Plaque Psoriasis in the United States

Christopher N Graham,1 LaStella Miles,1 Doreen McBride,1 Yang Zhao,2 Vivian Herrera3
1RTI Health Solutions, Research Triangle Park, NC, United States; 2RTI Health Solutions, Manchester, United Kingdom; 3Novartis Pharmaceuticals Corporation, East Hanover, NJ, United States

OBJECTIVE
- To estimate the indirect costs of moderate-to-severe plaque psoriasis by treatment-based disease improvement, as measured by PASI score change, from an employer’s perspective in the US.

METHODS
- PASI score data from a phase 3b study comparing the efficacy and safety of secukinumab versus ustekinumab (CLEAR) were analyzed from baseline to 16 weeks.
- Psoriasis Area Severity Index (PASI) score was a weighted measurement of the average redness, thickness, and scaliness of psoriasis lesions that is used to assess the severity of the disease. PASI 75 response (75%-100% improvement in PASI score from baseline to Week 16) was recognized as a clinically meaningful endpoint in clinical trials for the treatment of psoriasis, and PASI 90 (90%-100% improvement) has recently been used in the development of new psoriasis treatments.
- Among US patients with moderate-to-severe plaque psoriasis, there are limited data on indirect costs due to loss of work productivity (missed work time and impairment while working) by measures of treatment effect (e.g., change in PASI).

RESULTS
- Overall work impairment due to psoriasis decreased with greater skin clearance, with the majority of impairment being related to productivity loss at work (presenteeism) rather than to work time missed (absenteeism).

Overall Work Impairment by PASI Score Change

<table>
<thead>
<tr>
<th>PASI Score Change</th>
<th>Overall Work Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASI 90-74</td>
<td>22.8%</td>
</tr>
<tr>
<td>PASI 75-89</td>
<td>13.3%</td>
</tr>
<tr>
<td>PASI 75-90</td>
<td>6.6%</td>
</tr>
<tr>
<td>PASI 90</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Employment Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of psoriasis population employeda</td>
<td>67.0%</td>
</tr>
<tr>
<td>Percentage of part-time employmentb</td>
<td>18.0%</td>
</tr>
<tr>
<td>Average work hours/week</td>
<td>39.9</td>
</tr>
<tr>
<td>Average hourly wagec</td>
<td>$25.01</td>
</tr>
</tbody>
</table>

LIMITATIONS
- Short-term (16-week) data were used to project long-term (annual) costs.
- Wages for the general population were assumed to be similar to wages for the psoriasis population.
- The percentage of patients with psoriasis who were employed was obtained from the CLEAR study and may not represent the real-world employment percentages in the entire psoriasis population.

CONCLUSION
- Among US working patients with moderate-to-severe psoriasis, those achieving PASI 90 response were associated with a prominent increase in workplace productivity and reduction in annual indirect costs.

REFERENCES

Presented at: AMCP Managed Care & Specialty Pharmacy Annual Meeting 2016, April 19-22, 2016, San Francisco, CA, United States
Sponsored by Novartis Pharmaceuticals Corporation, East Hanover, NJ, United States