The cost-per-responder (CPR) of bimekizumab versus risankizumab in Psoriatic Arthritis (PsA)

Kevin Lock,[1] Flore Decuypere,[2] Melanie Hueber Kollen,[3] Navin Bithal,[1] Esther Fabre,[3] Stefano Maratia,[4] Luis Möckel,[5] Vincenzo Cilento,[6] Paloma Charlesworth,[7] Oliver Burn,[7] Michael Frank Mørup[8]

[1]UCB, Slough, United Kingdom; [2]UCB, Brussels, Belgium; [3]UCB, Courbevoie, France; [4]UCB, Madrid, Spain; [5]UCB, Monheim am Rhein, Germany; [6]UCB, Milano, Italy; [7]Source Health Economics, Oxford, United Kingdom; [8]UCB, Copenhagen, Denmark

EE351

To receive a copy of this poster, scan the QR code.
Link expiration: 09 February 2027

Objective

This study estimated the average cost-per-responder (CPR) of bimekizumab versus risankizumab in adults with active psoriatic arthritis (PsA), including patients with or without concomitant psoriasis (PsO), in Germany, France, United Kingdom (UK), Italy and Spain, across multiple outcomes.

Background

- PsA is a chronic inflammatory disease associated with substantial musculoskeletal and dermatologic burden.[1]
- Bimekizumab has demonstrated efficacy across multiple phase 3 clinical trials in PsA.[2, 3]
- The phase 3b head-to-head BE BOLD trial demonstrated superior efficacy of bimekizumab (interleukin-17A and interleukin-17F inhibitor (IL-17A/Fi)) versus risankizumab (IL-23i) on the American College of Rheumatology 50 (ACR50) endpoint at Week 16, with rapid and numerically greater improvements on Minimal Disease Activity (MDA) and Psoriasis Area and Severity Index 100 (PASI100) at Week 16.[4]
- Week 16 represents the established early response assessment point in PsA and is relevant to payer decision-making, as treatments that do not achieve an adequate response may be discontinued under stopping-rule frameworks.[5]

Methods

- Treatment-specific response rates for ACR50 at 16 weeks were derived using data from BE BOLD (NCT06012721).
- Drug acquisition costs were estimated over the 16-week time horizon using dosing regimens as specified in product labels and country-specific unit prices (excluding any local discounts).
- Costs were weighted to account for patients with concomitant moderate-to-severe PsO who require a higher dose of bimekizumab (320 mg vs 160 mg) as per country-specific regulatory labels.
- In the model base-case, 10% of patients were modelled as having concomitant moderate-to-severe PsO, aligned with the BE BOLD trial. These patients accrued bimekizumab costs based on the labelled 320 mg dose regimen, while treatment efficacy was based on the overall trial population.
- Number needed to treat (NNT) was calculated from the Week 16 response rate for each treatment and outcome. CPR was then estimated by multiplying the treatment-specific NNT by the corresponding 16-week treatment cost per patient, representing the average drug acquisition cost required to achieve one responder.
- Scenario analyses were performed for MDA and PASI100 outcomes at Week 16.
- A supporting scenario explored the effect of assuming that 30% of patients with PsA and moderate-to-severe PsO receive the higher dose of bimekizumab, reflecting clinical-practice estimates.[5]
- A threshold analysis was included as a supplementary assessment for the primary ACR50 outcome to identify the proportion of bimekizumab-treated patients receiving the higher dose at which the CPR would remain lower than the corresponding CPR for risankizumab.
- A model schematic describing the CPR calculation approach is presented in **Figure 1**.

Results

- Bimekizumab was associated with a lower CPR compared with risankizumab for all countries and endpoints.
- For the primary ACR50 endpoint at Week 16, bimekizumab reduced CPR by 37% to 48% versus risankizumab across countries (**Figure 2**).
- The ACR50 CPR for bimekizumab ranged from 52.4% to 62.5% of the CPR for risankizumab, indicating that 16 to 19 bimekizumab responders could be achieved for the cost of 10 risankizumab responders (**Figure 2** and **Figure 6**).
- NNT findings contributed directly to the CPR advantage: lower NNT values for bimekizumab meant fewer treated patients were required to achieve one responder, which reduced the cost required to generate response over the 16-week assessment period (**Table 1**)
- For MDA response at Week 16, bimekizumab reduced CPR by 25% to 37% versus risankizumab across countries (**Figure 3**).
- For PASI100 response at Week 16, bimekizumab reduced CPR by 29% to 41% versus risankizumab across countries (**Figure 4**).
- When assuming 30% of patients received the higher dose of bimekizumab, the Week 16 ACR50 CPR for bimekizumab remained lower than risankizumab across countries (**Figure 5**).
- In the supplementary ACR50 threshold analysis, bimekizumab remained associated with a lower CPR than risankizumab even when the proportion of patients receiving the higher bimekizumab dose substantially exceeded the expected clinical-practice estimate of approximately 30% (**Table 2**).

Summary & Conclusions

- CPR analysis of bimekizumab versus risankizumab estimated the treatment cost required to achieve one treatment responder at Week 16 in adults with active PsA, including patients with or without concomitant PsO across France, Germany, the UK, Italy and Spain.
- NNT results showed lower values for bimekizumab than risankizumab across all endpoints, indicating that fewer patients required treatment with bimekizumab to achieve one responder.
- These NNT findings supported the CPR results, with bimekizumab associated with a lower CPR than risankizumab across all countries and ACR50 CPR reductions of 37% to 48%.
- At the 16-week assessment point, which is relevant to payer decisions and stopping-rule considerations, approximately 16 to 19 ACR50 responders could be achieved with bimekizumab for the cost of 10 responders with risankizumab (**Figure 6**).

At Week 16, bimekizumab delivered consistently lower CPR than risankizumab across countries and outcomes, supporting its value where early response assessment and stopping rules are relevant to treatment decisions.

The consistent CPR advantage observed across countries and outcomes supports the value of bimekizumab as a treatment option in diverse healthcare settings and may help inform clinical and economic decision-making in adults with active PsA.

- Negotiated or contract prices were not considered in this analysis; therefore, the CPR estimates should be interpreted in the context of list-price based cost inputs.

Figure 1 CPR model schematic

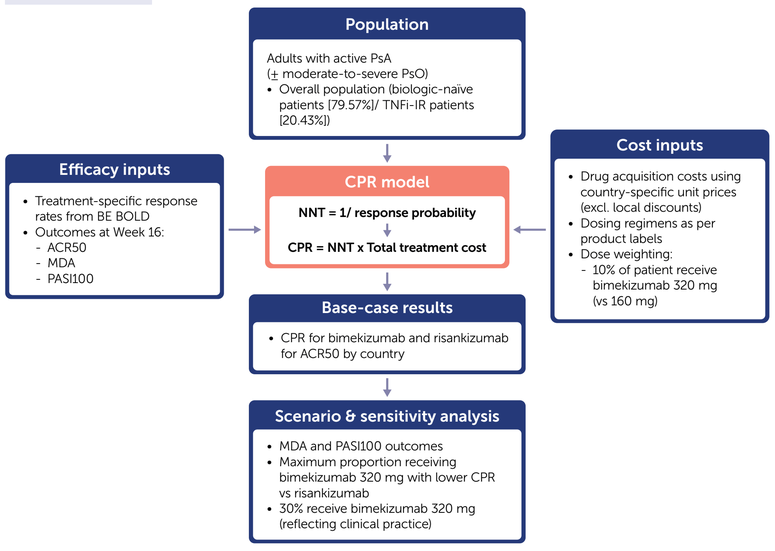


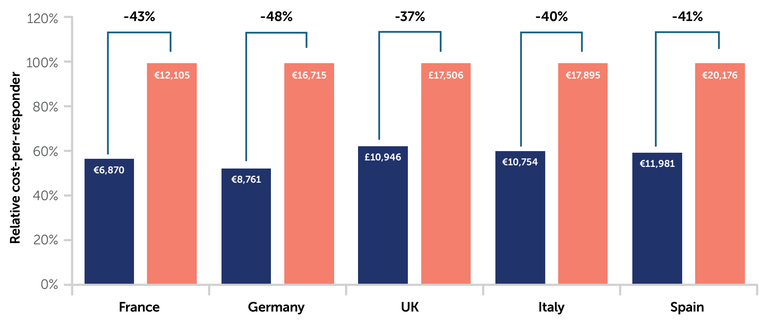
Table 1 NNT by endpoint at Week 16

Endpoint	BKZ NNT	RIS NNT
ACR50	2.04	2.63
MDA	2.33	2.51
PASI100	1.87	2.15

Table 2 ACR50 threshold analysis: proportion receiving bimekizumab 320 mg at which CPR remains lower or equal to risankizumab

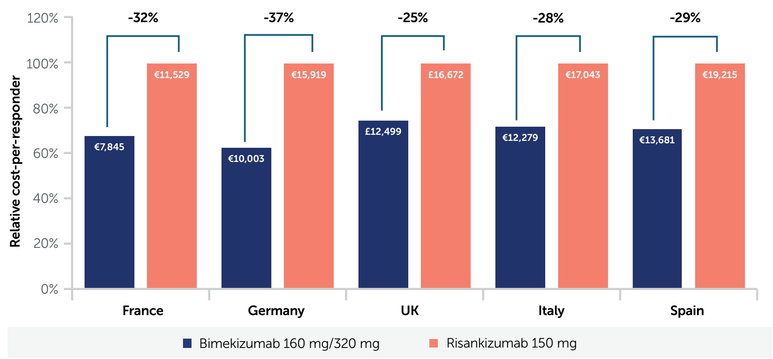
Country	ACR50 threshold
France	93.8%
Germany	86.1%
United Kingdom	75.9%
Italy	83.0%
Spain	85.2%

Figure 2 CPR, ACR50 at Week 16



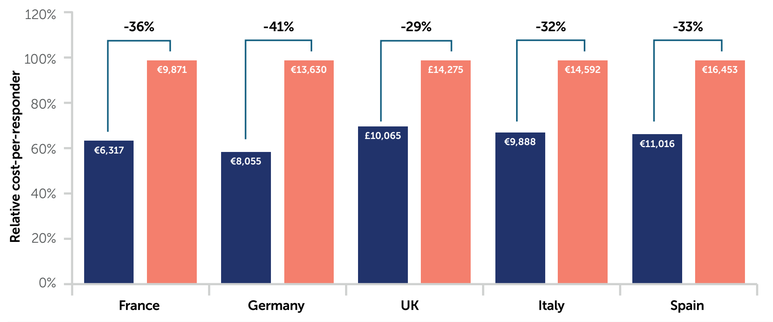
Bars show CPR for bimekizumab expressed relative to risankizumab (RIS = 100%). Percentages above the bars are the relative reduction in CPR with bimekizumab versus risankizumab, calculated as (1 - [CPR bimekizumab / CPR risankizumab]) x 100.

Figure 3 CPR, MDA at Week 16



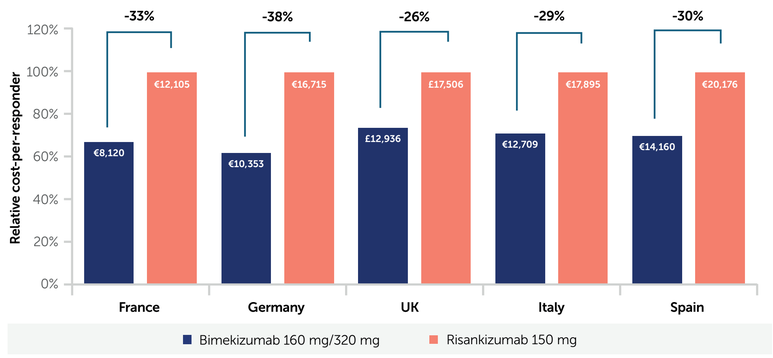
Bars show CPR for bimekizumab expressed relative to risankizumab (RIS = 100%). Percentages above the bars are the relative reduction in CPR with bimekizumab versus risankizumab, calculated as (1 - [CPR bimekizumab / CPR risankizumab]) x 100.

Figure 4 CPR, PASI100 at Week 16



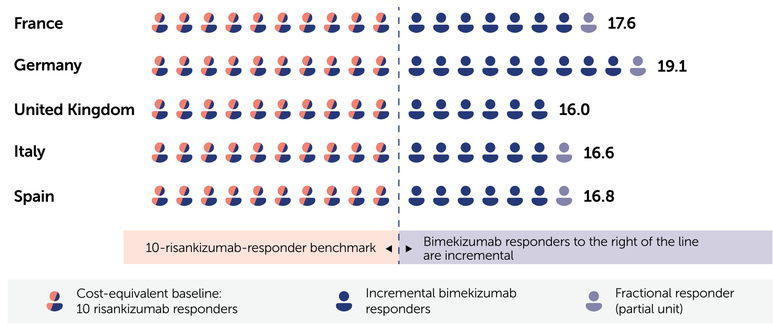
Bars show CPR for bimekizumab expressed relative to risankizumab (RIS = 100%). Percentages above the bars are the relative reduction in CPR with bimekizumab versus risankizumab, calculated as (1 - [CPR bimekizumab / CPR risankizumab]) x 100.

Figure 5 Scenario analysis: Cost per ACR50 responder at Week 16, assuming 30% concomitant PsO[6]



Bars show CPR for bimekizumab expressed relative to risankizumab (RIS = 100%). Percentages above the bars are the relative reduction in CPR with bimekizumab versus risankizumab, calculated as (1 - [CPR bimekizumab / CPR risankizumab]) x 100

Figure 6 Bimekizumab responders achieved for the cost of 10 risankizumab responders, ACR50, by country



Abbreviations: **ACR50,** American College of Rheumatology 50; **BKZ**, bimekizumab; **CPR**, cost per responder; **IL**, interleukin; **MDA**, minimal disease activity; **NNT**, number needed to treat; **PASI100**, Psoriasis Area and Severity Index 100; **PsA**, psoriatic arthritis; **PsO**, psoriasis; **RIS**, risankizumab; **TNFi-IR**, tumor necrosis factor inhibitor inadequate responder **UK**, United Kingdom.

References: [1]Tillett W. Rheumatol Ther. 2020; [2]Merola JF. Lancet. 2023;401:38–48; [3]McInnes IB. Lancet. 2023;401:25–37; [4]McInnes IB. EULAR 2025;LB0001; [5]Gossec L. Ann Rheum Dis. 2024;83:706; [6]Busquets-Pérez N. Clin Rheumatol. 2011;31:139–143.

Author Contributions: Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: **KL, FD, MHK, NB, EF, SM, LM, VC, PC, OB, MFM**; Drafting of the publication, or reviewing it critically for important intellectual content: **KL, FD, MHK, NB, EF, SM, LM, VC, PC, OB, MFM**; Final approval of the publication: **KL, FD, MHK, NB, EF, SM, LM, VC, PC, OB, MFM**.

Author disclosures: **KL, FD, MHK, NB, EF, SM, LM, VC,** and **MFM** are employees of UCB, the manufacturer of bimekizumab. **FD** and **LM** hold shares in UCB. **PC** and **OB** are employees of Source Health Economics, which was commissioned by UCB to perform this analysis.

Acknowledgements: We would like to thank the patients and their caregivers in addition to all the investigators and their teams who contributed to this study. The authors also thank Lyes Derouiche, PhD, of UCB, for editorial review during poster development and publication coordination, Paloma Charlesworth, Source HE, UK for medical writing and Shimaila Siddiqui, MSc, MBA, of Costello Medical, UK for editorial assistance. Funded by UCB. All costs associated with development of this presentation were funded by UCB.