Cost per Responder Analysis of Bimekizumab, a monoclonal IgG1 antibody which selectively inhibits IL-17F in addition to IL-17A, against IL-17A inhibitors in the Treatment of Axial Spondyloarthritis in Finland

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Objective

To assess the cost-per-responder at Week 16 of bimekizumab, a monoclonal IgG1 antibody which selectively inhibits interleukin (IL)-17F in addition to IL-17A, against approved IL-17A inhibitors for axial spondyloarthritis (axSpA) in Finland.

Introduction

- BE MOBILE 1 (NCT03928704)[1] and BE MOBILE 2 (NCT03928743)[2] demonstrated the efficacy and safety of treatment with subcutaneous bimekizumab 160 mg every 4 weeks (Q4W) in patients with non-radiographic (nr-) and radiographic (r-)axSpA.
- A network meta-analysis (NMA)[3] was developed to assess the comparative efficacy of different therapeutic agents. The cost-per-responder analysis presented here illustrates the combined effect of cost and efficacy differences.
- The results shown are for patients who were naïve to biologic disease-modifying anti-rheumatic drugs (biologic-naïve).

Materials and Methods

A cost-per-responder model was developed based on the patient populations in the BE MOBILE 1 & 2 trials.

- Treatments included were bimekizumab 160mg Q4W, ixekizumab 80mg Q4W and secukinumab 150mg Q4W.
- Efficacy outcomes assessed were Assessment in SpondyloArthritis International Society (ASAS) 40/Partial Remission (PR), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) 50, and Ankylosing Spondylitis Disease Activity Score (ASDAS) Low Disease Activity (<2.1) at 16 weeks.
- Drug acquisition costs (pharmacy retail prices including VAT) were obtained from Kela's price database[4] (April 2025) and used to calculate the total drug cost per patient over the first 16 weeks as per label.
- Response rates based on the BE MOBILE 1 & 2 trials and published NMA were used to calculate the number needed-to-treat for each outcome, multiplied by cost-per-patient for each intervention to obtain the cost-per-responder. Some data were not captured for certain drugs and populations in the NMA.

Results

ASAS40:

- In nr-axSpA patients, bimekizumab had the lowest cost-per-responder (9.222€) whereas the highest was secukinumab (14.713€). Bimekizumab also had the lowest cost-per responder in r-axSpA patients (9.222€), with ixekizumab the highest (10.579€) (**Figure 1**).

ASAS-PR:

- In nr-axSpA patients, bimekizumab had the lowest cost (14.492€) and secukinumab the highest (17.778€). Bimekizumab also had the lowest cost in r-axSpA patients (18.444€), whereas the highest was ixekizumab (31.737€) (**Figure 2**).

BASDAI50:

- In nr-axSpA and r-axSpA patients, bimekizumab had the lowest cost (9.017€ and 9.897€, respectively), whereas the highest cost was secukinumab (11.852€ and 13.334€, respectively) (**Figure 3**).

ASDAS <2.1:

- In nr-axSpA and r-axSpA patients, bimekizumab had the lowest cost (10.678€ and 10.404€, respectively), whereas the highest cost was ixekizumab (14.002€ and 10.819€, respectively) (**Figure 4**).

Conclusions

Based on published NMA response rates and drug acquisition costs, bimekizumab demonstrated the lowest cost-per-responder outcome at Week 16 across the axSpA disease spectrum (nr- and r-axSpA) among approved IL-17A inhibitors in Finland.

Summary of Cost-Per-Responder Results

As per the analysis, **bimekizumab demonstrated the lowest cost of treatment**:

Biologic-naïve nr- and r-axSpA			
ASAS40	Amongst 3 treatments	**ASAS-PR**	Amongst 3 treatments
BASDAI 50	Amongst 3 treatments	**ASDAS <2.1**	Amongst 2 treatments

Limitations

- Where data was not captured for certain drugs and population subgroups in the NMA, cost-per-responder results could not be calculated.
- There are limited numbers of head-to-head randomized control clinical trials that exist for IL-17A inhibitor therapies.
- Long-term evaluation of drug costs and efficacy outcomes is not possible using NMA.

Figure 1 Cost-per-responder (€), ASAS40 results (nr- and r-axSpA)

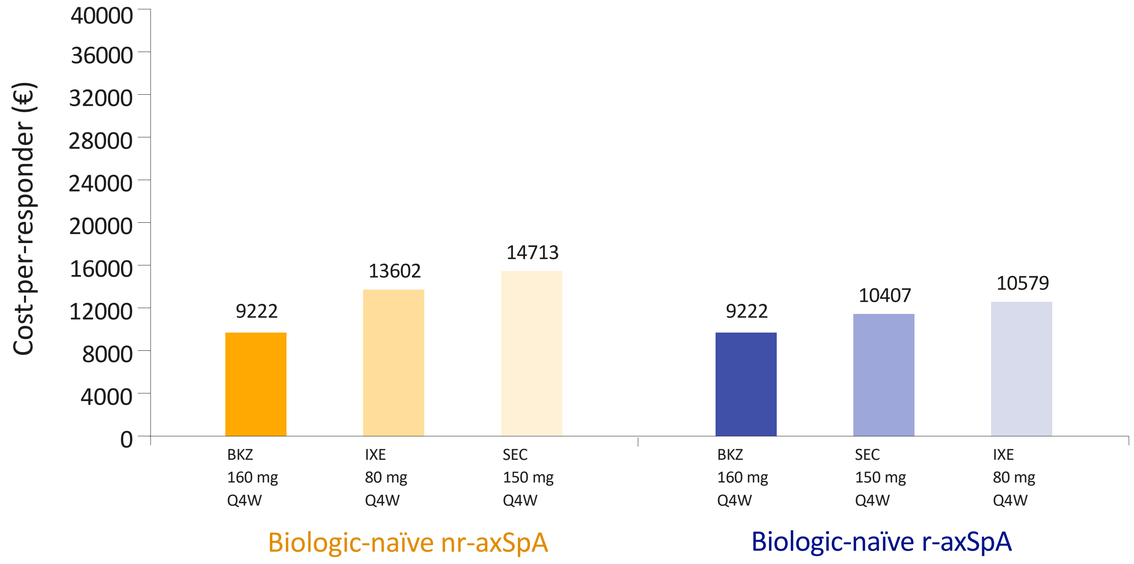
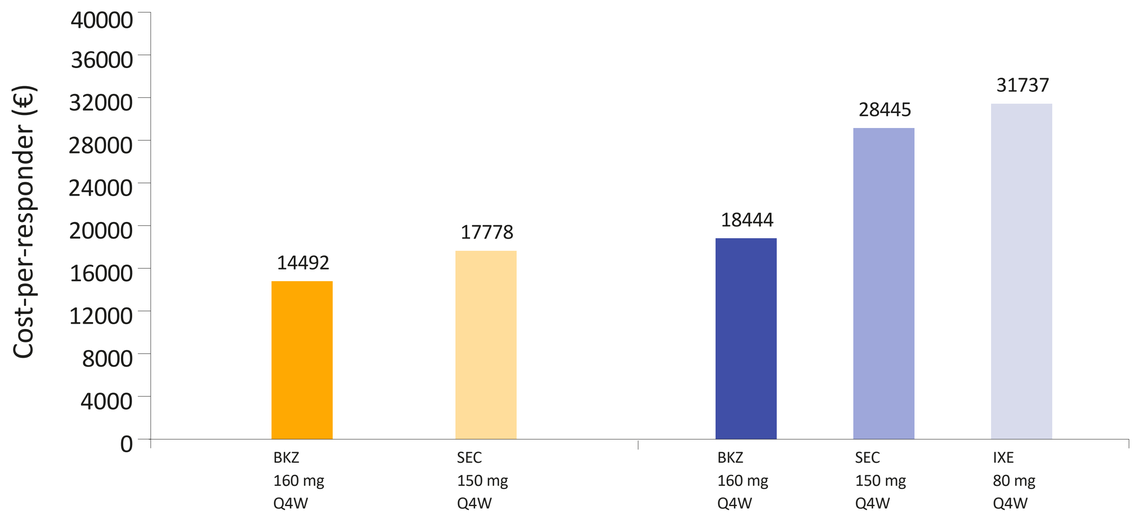


Figure 2 Cost-per-responder (€), ASAS-PR results (nr- and r-axSpA)*



**ASAS-PR efficacy data for IXE 80 mg Q4W was not available for nr-axSpA patients.*

Figure 3 Cost-per-responder (€), BASDAI50 results (nr- and r-axSpA)

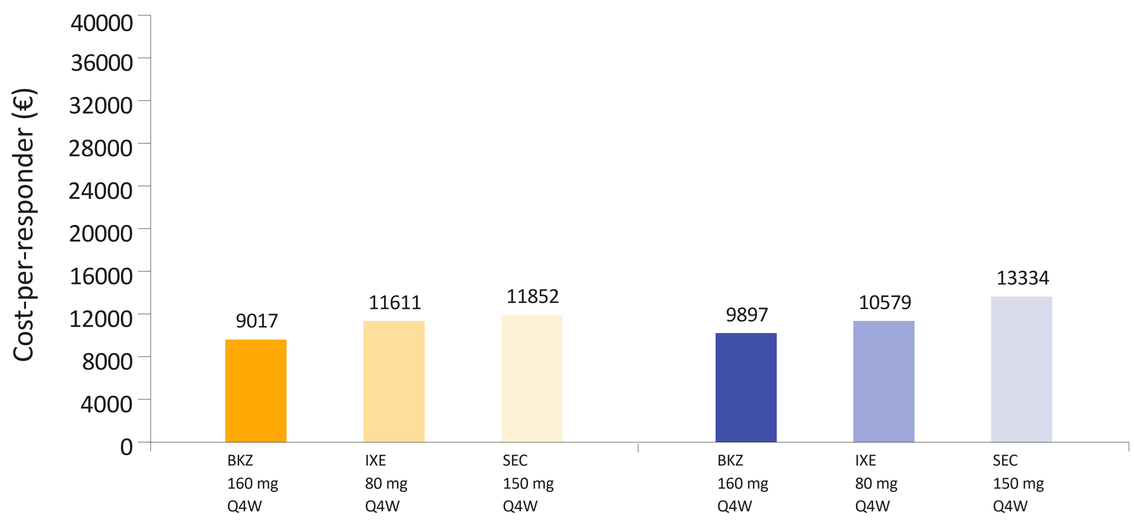
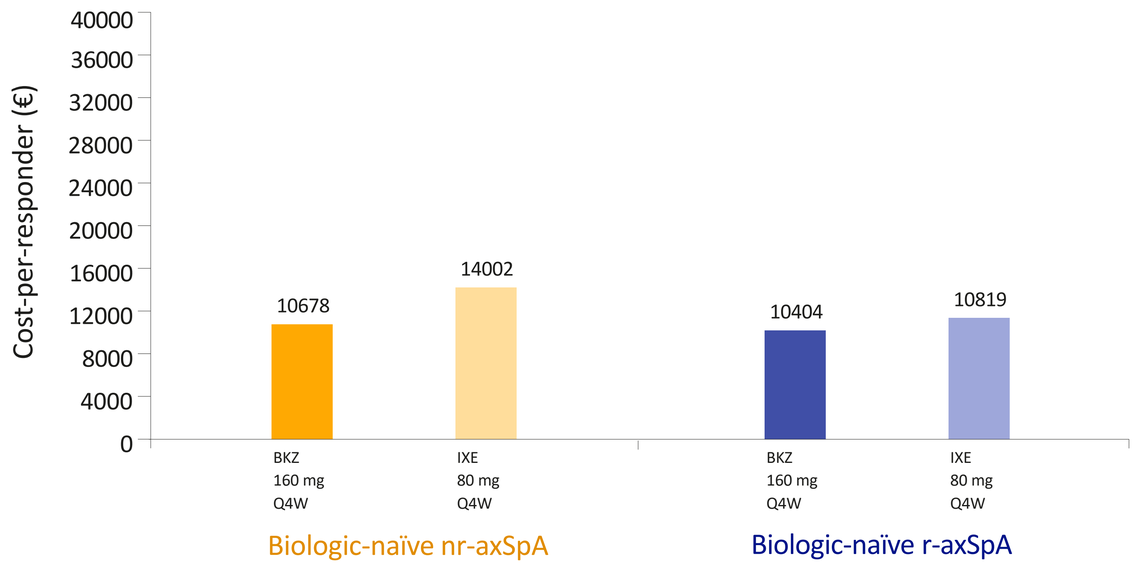


Figure 4 Cost-per-responder (€), ASDAS <2.1 results (nr- and r-axSpA)*



**ASDAS <2.1 efficacy data for SEC 150 mg Q4W was not available for nr- and r-axSpA patients.*

ASAS40: Assessment in SpondyloArthritis International Society 40% improvement; **ASAS-PR**: Assessment in SpondyloArthritis International Society Partial Remission; **ASDAS <2.1**: Ankylosing Spondylitis Disease Activity Score Low Disease Activity; **axSpA**: axial spondyloarthritis; **BASDAI50**: Bath Ankylosing Spondylitis Disease Activity Index 50% improvement; **BKZ**: bimekizumab; **EUR**: Euro; **IL**: interleukin; **IXE**: ixekizumab; **NMA**: network meta-analysis; **mg**: milligram; **nr**: non-radiographic; **Q4W**: every four weeks; **r**: radiographic; **SEC**: secukinumab; **VAT**: value-added tax.

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References: [1]BE MOBILE 1. ClinicalTrials.gov 2019; NCT03928704. Available from: https://clinicaltrials.gov/ct2/show/NCT03928704; [2]BE MOBILE 2. ClinicalTrials.gov 2019; NCT03928743. Available from: https://clinicaltrials.gov/ct2/show/NCT03928743; [3]Deodhar A, et al. Rheumatology 2024;63:1195-1205; [4]Kela. Medicinal Products Database. Accessed April 2025. Available from: https://asiointi.kela.fi/laakekys_app/LaakekysApplication?kieli=en. **Author disclosures**: **LV**: Employee of UCB Pharma; **PE**: Employee of UCB Pharma; **FB**: Employee of Quantify Research; **AF**: Employee of Quantify Research; **MM**: Employee of UCB Pharma.

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