

Bimekizumab Time to Meaningful Improvements in Clinical and Patient-Reported Outcomes in Patients with Psoriatic Arthritis: Results from a Post Hoc Analysis of Two Pooled Phase 3 Studies

P1803

Alen Zabotti,¹ Laura C. Coates,² Alice B. Gottlieb,³ Peter Nash,⁴ Philipp Sewerin,⁵ Andrew Jordan,⁶ Masato Okada,⁷ Renaud Felten,⁸ Jérémy Lambert,⁹ Nadine Goldammer,¹⁰ Patrick Healy,¹¹ Joseph F. Merola¹²

¹University of Udine, University Hospital Santa Maria della Misericordia, Department of Medicine (DMED), Rheumatology Division, Udine, Italy; ²Oxford University Hospitals NHS Trust, University of Oxford and Oxford Biomedical Research Centre, Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Diseases, Oxford, UK; ³UT Southwestern Medical Center, Department of Dermatology, Dallas, USA; ⁴Griffith University, School of Medicine, Brisbane, Australia; ⁵University Hospital of the Ruhr University Bochum, Rheumazentrum Ruhrgebiet, Herne, Germany; ⁶BJC Health, Paramatta, Australia; ⁷St. Luke's International Hospital, Immuno-Rheumatology Center, Tokyo, Japan; ⁸Strasbourg University Hospitals, Hautepierre Hospital, Clinical Investigation Center, Rheumatology Department and National Reference Center for Rare Systemic Autoimmune Diseases, Strasbourg, France; ⁹UCB, Courbevoie, France; ¹⁰UCB, Monheim am Rhein, Germany; ¹¹UCB, Morrisville, USA; ¹²UT Southwestern Medical Center, Department of Dermatology and Department of Medicine, Division of Rheumatology, Dallas, USA

Objective

To report the median time to clinically meaningful improvement in clinical composite endpoints and patient-reported outcomes (PROs) in patients with psoriatic arthritis (PsA) who were treated with bimekizumab (BKZ), using pooled data from two phase 3 studies.

Background

- PsA is a chronic, inflammatory disease that manifests across multiple domains and substantially impacts patient quality of life.^{1,2}
- BKZ, which selectively inhibits interleukin (IL)-17F in addition to IL-17A, has demonstrated sustained and consistent efficacy and safety up to 3 years in patients with active PsA who were biological disease-modifying antirheumatic drug (bDMARD)-naïve or had prior inadequate response or intolerance to tumour necrosis factor inhibitors (TNFi-IR).^{3,4}

Methods

Trials reported

- The BE OPTIMAL (NCT03895203; bDMARD-naïve) and BE COMPLETE (NCT03896581; TNFi-IR) phase 3 trials assessed BKZ 160 mg every 4 weeks (Q4W) in patients with PsA.
- Placebo-randomised patients switched to BKZ (PBO/BKZ) at Week 16. BE OPTIMAL reference arm (adalimumab 40 mg Q2W) data not reported here. BKZ Total group reported as PBO/BKZ and BKZ groups combined.
- Eligible completers had the option to enter BE VITAL (NCT04009499; open-label extension); all patients received BKZ.

Time to median response analyses

- Study data were pooled and reported as BKZ Total to Year 3 (pooled Week 160/156 BE OPTIMAL/BE COMPLETE data) as observed case.
- The Kaplan-Meier method was used to estimate median time to achievement and the probability of achieving minimal clinically important differences (MCIDs) or improvements (MCIs) or higher treatment targets (HTTs) in clinical outcomes and PROs by Year 3.
- Time to response was calculated from first BKZ treatment (Week 0 for BKZ-randomised patients and Week 16 for PBO-randomised patients).
- Patients not meeting thresholds for outcomes from time of first BKZ treatment were included.
- Efficacy in achieving MCIDs, MCIs and HTTs for clinical outcomes and PROs were reported; the list of outcomes can be found in **Figure 1**.

Results

- 1,112 BKZ Total patients were included.
- The BKZ Total group demonstrated rapid achievement of MCIDs or MCIs across clinical and PRO measures (**Figure 1**); the median times to achievement of MCID in PROs ranged from 8.1 weeks for Pain30 to 25.0 weeks for PsAID-12.
- The median times to achieve the HTTs of ACR50, SJC=0, PASI100 and MDA were 12.3–20.1 weeks in the BKZ Total group (**Figure 1**).
- PsAID-12 REM/LDA, defined as PsAID-12 total score ≤1.95, was achieved at 24.1 weeks.
- Kaplan-Meier plots support a consistent pattern of rapid and sustained response across objective signs of inflammation, overall clinical disease control and quality of life with BKZ intervention (**Figure 2**).

Conclusions

Bimekizumab treatment was associated with rapid, clinically meaningful improvements across joint, skin and PRO measures.

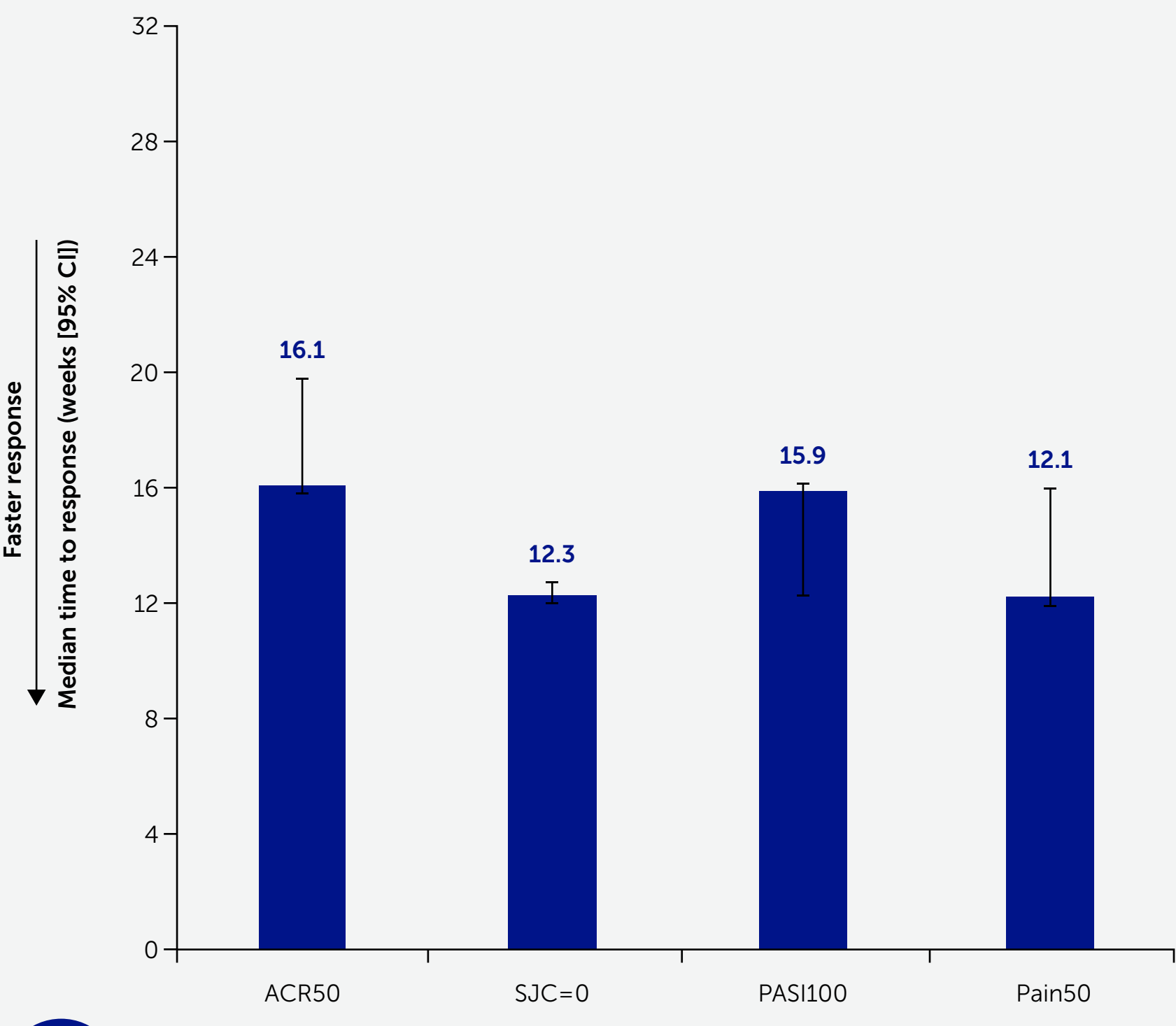
Median time to response for many measures was within 8–16 weeks in patients with active PsA who were bDMARD-naïve or TNFi-IR, though interpretation should consider the post hoc design and potential confounding factors.

Notably, patients receiving bimekizumab treatment reported meeting improvements for pain (Pain30) and physical function (HAQ-DI MCID) within approximately 8–12 weeks on average, highlighting the potential benefit of bimekizumab for prompt patient well-being enhancement.

Summary

This analysis examined the median time to response for clinical and patient-reported outcomes through 3 years of treatment with bimekizumab in patients with PsA using pooled data from two phase 3 trials

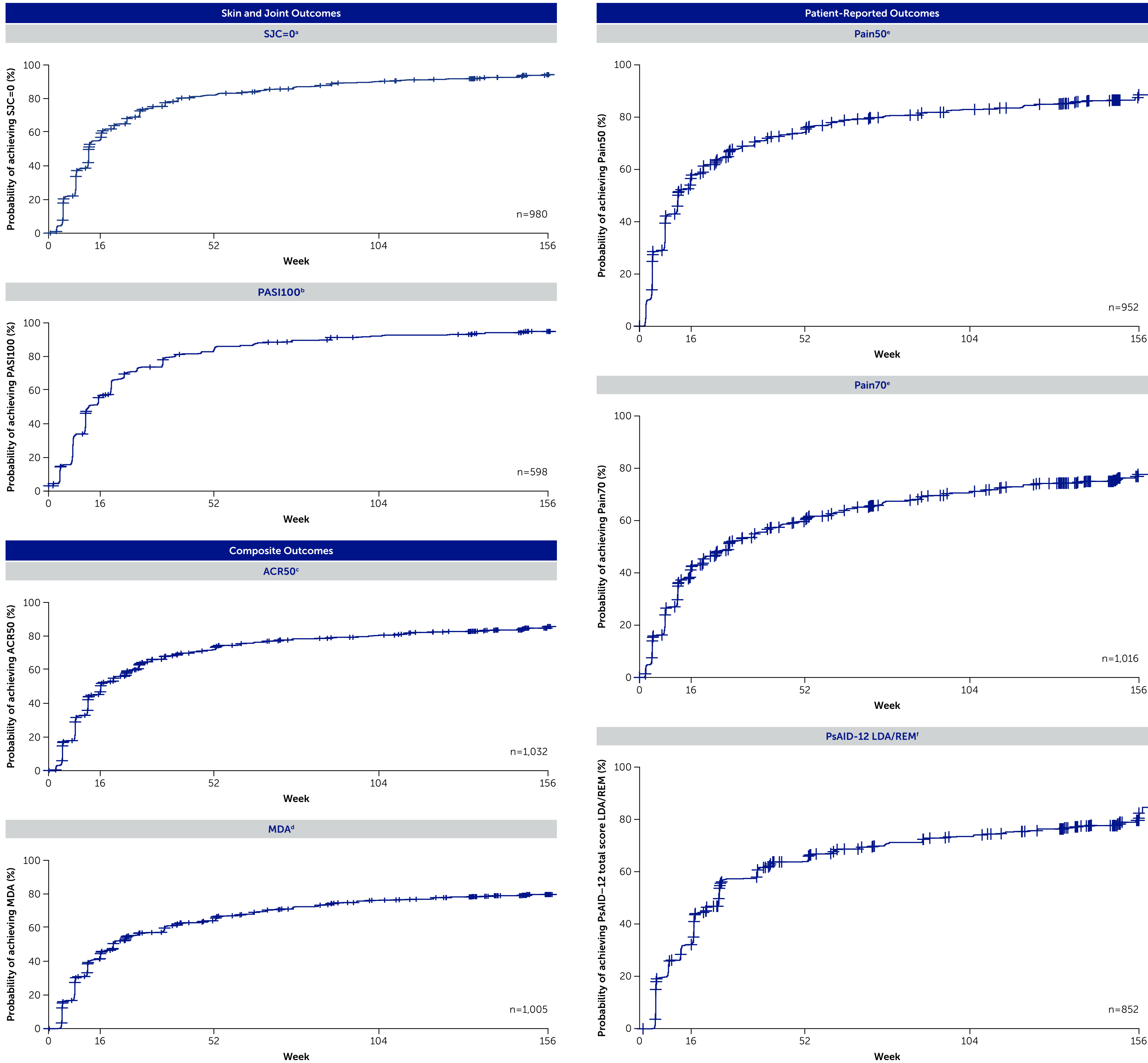
The median time to response for BKZ-randomised patients for the following clinical and patient-reported outcomes were:



BKZ treatment was associated with rapid, clinically meaningful improvements, with many outcomes achieved within 8–16 weeks.

Figure 2

Kaplan-Meier time curves showing the probability of achieving response for signs of inflammation, composite outcomes and PROs to Year 3 in BKZ Total group



ACR20/50: ≥20%/50% improvement from baseline in American College of Rheumatology response criteria; bDMARD: biological disease-modifying antirheumatic drug; BKZ: bimekizumab; BSA: body surface area; CI: confidence interval; FACIT: Functional Assessment of Chronic Illness Therapy; HAQ-DI: Health Assessment Questionnaire-Disability Index; HTT: higher treatment target; IL: interleukin; LDA: low disease activity; MCID: minimal clinically important difference; MCII: minimal clinically important improvement; MDA: minimal disease activity; Pain30/50/70: ≥30%/50%/70% improvement on the Pain VAS scale; PASI75/100: ≥75%/100% improvement from baseline in Psoriasis Area and Severity Index; PBO: placebo; PRO: patient-reported outcome; PsA: psoriatic arthritis; PsAID-12: Psoriatic Arthritis Impact of Disease-12; Q2W: every 2 weeks; Q4W: every 4 weeks; REM: remission; SJC: swollen joint count; TNFi-IR: inadequate response or intolerance to tumour necrosis factor inhibitors; VAS: visual analogue scale; VLDA: very low disease activity.

References: ¹Coates LC et al. Clin Med (Lond) 2017;17:65–70. ²Salfati F et al. Health Qual Life Outcomes 2009;7:25. ³Gossec L et al. Ann Rheum Dis 2025;84(S1):1337–8. ⁴McInnes IB. Ann Rheum Dis 2025;84(S1):400–1. ⁵Dworkin RH et al. J Pain 2008;9(2):105–21. **Author Contributions:** Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: **AZ, LCC, ABG, PN, PS, AJ, MO, RF, JL, NG, PH, JFM.** Drafting of the publication, or reviewing it critically for important intellectual content: **AZ, LCC, ABG, PN, PS, AJ, MO, RF, JL, NG, PH, JFM.** Final approval of the publication: **AZ, LCC, ABG, PN, PS, AJ, MO, RF, JL, NG, PH, JFM.** **Author Disclosures:** **AZ:** Consultant for AbbVie, Eli Lilly and Company, Janssen, Novartis, Otsuka and UCB. **LCC:** Grants/research support from AbbVie, Amgen, Celgene, Eli Lilly, Gilead, Janssen, Novartis, Pfizer and UCB. **ABG:** Received research/educational grants from BMS, Janssen, Moonlake and UCB (all paid to Mount Sinai School of Medicine until May 1, 2025); at UTSW she is Sub I on studies from BMS and Janssen and PI on a BMS study; received honoraria as an advisory board member and consultant for AbbVie (terminated July 2026), Amgen, Biogen, BMS, Eli Lilly, Janssen, Novartis, Otsuka, Sanofi, SunPharma, Takeda, Teva and UCB. **PN:** Speakers bureau fees from AbbVie, AstraZeneca, BMS, Janssen, Lilly, Novartis, Pfizer and UCB; consultant for AbbVie, AstraZeneca, BMS, Janssen, Lilly, Novartis, Pfizer, Servatis, UCB and Xencor; grant/research support from AbbVie, Amgen, AstraZeneca, BMS, Janssen, Lilly, Novartis, Pfizer, Servatis, UCB and Xencor. **PS:** Speakers bureau for AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; consultant for AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein-Ruhr, Sanofi-Genzyme, Spirit Medical Communication, Swedish Orphan Biovitrum and UCB; grant/research support from AXIOM Health, AMGEN, AbbVie, Biogen, BMS, Celgene, Chugai Pharma Marketing Ltd./Chugai Europe, Deutscher Psoriasis-Bund, Gilead Sciences, Hexal Pharma, Janssen-Cilag, Johnson & Johnson, Lilly/Lilly Europe/Lilly Global, medi-login, Mediri GmbH, Novartis Pharma, Onkowsen GmbH, Pfizer, Roche Pharma, Rheumazentrum Rhein