EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Curriculum Vitae

Personal information

Norbert Benda

Work experience

1. Employer: BfArM (Federal Institute for Drugs and Medical Devices)
   - Start date: 022010
   - End date:
   - Position: Head of Biostatistics and Special Pharmacokinetics Unit
   - Activities: Managing Biostatistics and Special Pharmacokinetics Unit, biostatistical assessment of European and national German drug applications, biostatistical support in scientific advices, biostatistical input to guidelines, biostatistical input to clinical and methodological research projects
   - Country: Germany
2. Employer: Novartis Pharma AG
   - Start date: 112006
   - End date: 012010
   - Position: (Senior) Expert Statistical Methodologist
   - Activities: Development and application of novel statistical methodologies (dose_finding, adaptive designs, longitudinal data analysis, missing data, optimal design), methodological support for Trial and Program Statisticians, clinical scenario evaluations (simulations) for clinical trial planning, internal training courses in statistics
   - Country: Switzerland
3. Employer: Schering AG
   - Start date: 071997
   - End date: 102006
   - Position: Statistician
   - Activities: Statistical design and analysis of clinical studies (phase I _ IV), statistical consultant for preclinical and clinical development, project statistician for international drug development projects, member of the Global Pharmacometrics Team
   - Country: Germany
4. Employer: University of Tübingen, Department of Medical Biometry
   - Start date: 101993
   - End date: 071997
   - Position: Research Assistant
   - Activities: Statistical consultant in statistics for medical PhD students and researchers, lectures in medical statistics, design and evaluation of medical studies, research projects in ophthalmology
   - Country: Germany
5. Employer: Free University of Berlin, Institute of Mathematics
   - Start date: 041989
   - End date: 091993
   - Position: Research Assistant
   - Activities: Research in mathematical statistics (experimental design), lectures in statistics for students of mathematics and biology
   - Country: Germany

Education and training

1. Subject: Institute of Mathematics, Free University of Berlin
   - Start date: 041989
   - End date: 121992
   - Qualification: Doctorate in Mathematics (Dr. rer. nat.)
   - Organisation:
   - Country: Germany
2. Subject: Technical University Aachen (RWTH Aachen)
   - Start date: 101982
   - End date: 101988
   - Qualification: Diploma in Mathematics
   - Organisation:
   - Country: Germany

Additional information

Publications

1. Klinglmueller F, Fellinger T, Koenig F, Friede T, Hooker A, Heinzl H, Mittlboeck M, Brugger J, Bardo M Huber C, **Benda N,** Posch M, Ristl R (2025). A comparison of statistical methods for time-to-event analyses in randomized controlled trials under non-proportional hazards. *Statistics in Medicine 44*, in press.
2. Huber C, Zinserling J, **Benda N**, Vetter T, Rueckbeil M (2025).

Methodological insights on biomarker-based patient selection: A review of Scientific Advice procedures at the European Medicines Agency. *Clinical Pharmacology & Therapeutics*, in press.

3. Karres D, Pino-Barrio MJ, Benchetrit S, **Benda N**, Cochat P, Galluzzo S, García-Solís A, Gonzalez S, de Lisa R, Khan D, Lankester R, Lentz F, Martínez-Ortega PA, Montilla S, Morales DR, Musuamba Tshinanu F, Pulido Sánchez S, Rossignoli Montero A, Scherer S, Thomson A, Torres Garrido B, Umuhire D, Wang S, Bax R, Hedberg N (2024). Evidence generation throughout paediatric medicines lifecycle - current experience and challenges from a regulatory and Health Technology Assessment perspective – learnings from the collaborative work between the European Medicines Agency and the European network for Health Technology Assessment on use of extrapolation. *British Journal of Pharmacology*, https://doi.org/10.1111/bph.17396.
4. Liu X, **Benda N**, Mittmann C, Koch A (2024). Combining Recurrent and Terminal Events Into a Composite Endpoint May Be Problematic. *Statistics in Biopharmaceutical Research*. Published online 23 Sep 2024, https://doi.org/10.1080/19466315.2024.2395404.
5. Bardo M, Huber C, **Benda N**, Brugger J, Fellinger T, Galaune V, Heinzl H, Hooker AC, Klinglmüller F, König F, Mathes T, Mittelböck M, Posch M, Ristl R, Friede T (2024). Methods for non-proportional hazards in clinical trials: A systematic review. *Statistical Methods in Medical Research*. Published online 09 Apr 2024, https://doi.org/10.1177/09622802241242325.
6. Hot A, **Benda N**, Bossuyt PM, Gerke O, Vach W, Zapf A (2022). Sample size recalculation based on the prevalence in a randomized test-treatment study. *BMC Med Res Methodol. 22*(1):205.
7. Huber C, Friede T, Stingl JC, **Benda N** (2022). Classification of companion diagnostics: A new framework for biomarker driven patient selection. *Therapeutic Innovation & Regulatory Science 56*(2):244-254.
8. Huber C, **Benda N**, Friede T (2021). Subgroup identification in individual participant data meta-analysis using model-based recursive partitioning. *Adv Data Anal Classif* (2021). Published online 14 Aug 2021. https://doi.org/10.1007/s11634-021-00458-3
9. Mütze T, Salem S, **Benda N**, Schmidli H, Friede T (2020). Blinded continuous information monitoring of recurrent event endpoints with time trends in clinical trials. *Statistics in Medicine 39*(27): 3968-3985.
10. Kesselmeier M, **Benda N**, Scherag A (equal contributions of all authors) (2020). Effect size estimates from umbrella designs: handling patients with a positive test result for multiple biomarkers using random or pragmatic subtrial allocation. *PLOS One*. Published online: 14 Aug 2020.
11. Stallard N, Hampson L, **Benda N**, Brannath W, Burnett T, Friede T, Kimani PK, Koenig F, Krisam J, Mozgunov P, Posch M, Wason J, Wassmer G, Whitehead J, Williamson SF, Zohar S, Jaki T (2020). Efficient Adaptive Designs for Clinical Trials of Interventions for COVID-19. *Statistics in Biopharmaceutical Research*. Published online (early view): 29 Jul 2020.
12. **Benda N**, Haenisch B (2020). Enrichment designs using placebo nonresponders. *Pharm Stat. 19*(3):303-314.
13. Prus M, **Benda N**, Schwabe R (2020). Optimal Design in Hierarchical Random Effect Models for Individual Prediction with Application in Precision Medicine. *Journal of Statistical Theory and Practice 14*(2).

14. Holtkamp F, Gudmundsdottir H, Maciulaitis R, **Benda N**, Thomson A, Vetter T (2020). Change in Albuminuria and Estimated GFR as End Points for Clinical Trials in Early Stages of CKD: A Perspective From European Regulators. *Am J Kidney Dis. 75*(1):6-8.

15. Zapf A, Stark M, Gerke O, Ehret C, **Benda N,** Bossuyt P, Deeks J, Reitsma J, Alonzo T, Friede T (2020). Adaptive trial designs in diagnostic accuracy research. *Stat Med.* 39(5):591-601.

16. Hampel H, Vergallo A, Afshar M, Akman-Anderson L, Arenas J, **Benda N**, Batrla R, Broich K, Caraci F, Cuello AC, Emanuele E, Haberkamp M, Kiddle SJ, Lucía A, Mapstone M, Verdooner SR, Woodcock J, Lista S (2019). Blood-based systems biology biomarkers for next-generation clinical trials in Alzheimer's disease. *Dialogues Clin Neurosci. 21*(2):177-191.

17. Huber C, **Benda N**, Friede T (2019). A comparison of subgroup identification methods in clinical drug development: Simulation study and regulatory considerations. *Pharm Stat. 18*(5):600-626.

18. Graf von Kielmansegg S, **Benda N**, Grass G, Sudhop T (2019). Die Rolle von Ethikkommissionen bei der Bewertung klinischer Arzneimittelprüfungen [Ethics committees in clinical trials involving medicinal products]. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz 62*(6):706-712. German.

19. Unkel S, Amiri M, **Benda N**, Beyersmann J, Knoerzer D, Kupas K, Langer F, Leverkus F, Loos A, Ose C, Proctor T, Schmoor C, Schwenke C, Skipka G, Unnebrink K, Voss F, Friede T (2019). On estimands and the analysis of adverse events in the presence of varying follow-up times within the benefit assessment of therapies. *Pharm Stat. 18*(2):166-183.

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21. **Benda N** (2018). Book review: Quantitative decisions in drug development. Chuang‐Stein, Christy and Kirby, Simon (2017). *Biometrical Journal 61*, 1090-1091.

22. Hampel H, Vergallo A, Aguilar LF, **Benda N**, Broich K, Cuello AC, Cummings J, Dubois B, Federoff HJ, Fiandaca M, Genthon R, Haberkamp M, Karran E, Mapstone M, Perry G, Schneider LS, Welikovitch LA, Woodcock J, Baldacci F, Lista S (2018). Alzheimer Precision Medicine Initiative (APMI). Precision pharmacology for Alzheimer's disease. *Pharmacol Res. 130*:331-365.

23. **Benda N**, Brandt A (2018). Regulatory issues with multiplicity in drug approval: Principles and controversies in a changing landscape. *J Biopharm Stat. 28*(1):3-9.

24. **Benda N**, Bürkner PC, Freise F, Holling H, Schwabe R (2017). Adaptive designs for quantal dose-response experiments with false answers. *Journal of statistical theory and practice 11*, 361-374.

25. **Benda N** (2017). Book review: Modern Adaptive Randomized Clinical Trials. O. Sverdlov (ed.) (2016). *Biometrical Journal 59*, 1402–1403.

26. Leuchs AK, Brandt A, Zinserling J, **Benda N** (2017). Disentangling estimands and the intention-to-treat principle. *Pharm Stat 16*, 12-19.

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29. Manolis E, Brogren J, Cole S, Hay JL, Nordmark A, Karlsson KE, Lentz F, **Benda N**, Wangorsch G, Pons G, Zhao W, Gigante V, Serone F, Standing JF, Dokoumetzidis A, Vakkilainen J, van den Heuvel M, Mangas Sanjuan V, Taminiau J, Kerwash E, Khan D, Musuamba FT, Skottheim Rusten I; EMA Modelling and Simulation Working Group (2017). Commentary on the MID3 Good Practices Paper. *CPT Pharmacometrics Syst Pharmacol 6*, 416-417.

30. Hampel H, O'Bryant SE, Castrillo JI, Ritchie C, Rojkova K, Broich K, **Benda N**, Nisticò R, Frank RA, Dubois B, Escott-Price V, Lista S (2016). Precision Medicine - The Golden Gate for Detection, Treatment and Prevention of Alzheimer's Disease. *J Prev Alzheimers Dis 3*, 243-259.

31. Stingl JC, Kaumanns KL, Claus K, Lehmann ML, Kastenmüller K, Bleckwenn M, Hartmann G, Steffens M, Wirtz D, Leuchs AK, **Benda N**, Meier F, Schöffski O, Holdenrieder S, Coch C, Weckbecker K (2016). Individualized versus standardized risk assessment in patients at high risk for adverse drug reactions (IDrug) – study protocol for a pragmatic randomized controlled trial. *BMC Fam Pract 26*, 17-49.

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38. Großhennig A, **Benda N**, Koch, A (2013). Die Bedeutung von Biomarkern für eine personalisierte Medizin. *Bundesgesundheitsblatt 56*, 1480-1488.

39. **Benda N**, Bender R (2011). Multiplicity Issues in Clinical Trials. *Biometrical Journal* 53, 873-874. Editorial.

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41. **Benda N**, Branson M, Maurer W, Friede T (2010). Modernizing drug development using clinical scenario planning and evaluation. *Drug Information Journal 44*, 299-315.

42. Akacha M, **Benda N** (2010). The impact of dropouts on the analysis of dose-finding studies with recurrent event data. *Statistics in Medicine 29*, 1635-1646.

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48. Röhmel J, Gerlinger C, **Benda N**, Läuter J (2006). On testing simultaneously non-inferiority in two multiple primary endpoints and superiority in at least one of them. *Biometrical Journal 48*, 916-933.

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51. **Benda N**, Gerlinger C, van der Meulen E, and Endrikat J (2004). Sample size calculation for clinical studies on the efficacy of a new contraceptive method. *Biometrical Journal 46*, 141-150.

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Therapieansprechen und Überleben? *Fortschritte auf dem Gebiet der Röntgenstrahlen und bildgebenden Verfahren (Röfo) 176*, 375-385.

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55. Mielke G, **Benda N** (2001). Cardiac output and central distribution of blood flow in human fetus. *Circulation 103*, 1662-1668.
56. Lutz S, Dietrich TJ, **Benda N**, Selig B, Strasburger H, Schiefer U (2001). An explicit no response instead of time-out in automated visual-field testing. *Graefes Archive of Clinical and Experimental Ophthalmology 239*, 173-181.
57. Mielke G, **Benda N** (2000). Blood flow velocity waveforms of the fetal pulmonary artery and the ductus arteriosus: Reference ranges from 13 weeks to term. *Ultrasound in Obstetrics and Gynecology 15*, 213-218.
58. Mielke G, **Benda N** (2000). Reference ranges for two-dimensional echocardiographic examination of the fetal ductus arteriosus. *Ultrasound in Obstetrics and Gynecology 15*, 219-225.
59. **Benda N**, Schiefer U, Dietrich TJ (1999). Models for the description of angioscotomas. *Vision Research 39*, 1889-1896.
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63. Topka H, Massaquoi SG, **Benda N**, Hallett M (1998). Motor Skill Learning in Patients with Cerebellar Degeneration. *Journal of the Neurological Sciences 158*, 164-172.
64. Franz HBG, **Benda N**, Gonser M, Bäckert IT, Jehle EC (1998). Klinische Auswirkungen der Geburt mit medianer Episiotomie und analer Sphinkterverletzung auf die Stuhlinkontinez bei Primiparae. *Zentralblatt für Chirurgie 123*, 218-223.
65. Bader P, Beck J, Frey A, Schlegel PG, Hebarth H, Handgretinger R, Einsele H, Niemeyer C, **Benda N**, Faul C, Kanz L, Niethammer D, Klingebiel T (1998). Serial and quantitative analysis of mixed hematopoietic chimerism by PCR in patients with acute leukemias allows the prediction of relapse after allogeneic BMT. *Bone Marrow Transplantation 21*, 487-95.
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calcification as assessed by intravascular ultrasound. *Journal of the American College of Cardiology 31*, 987-91.

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72. Bruck B, Brehm U, Gugel N, Hanke S, Lutz C, **Benda N**, Schmahl FW, Haasis R, Hanke H (1997). Gender Specific Differences in the Effekt of Testosterone and Estrogen in the Development of Atherosclerosis in Rabbits. *Arteriosclerosis, Thrombosis, and Vascular Biology 17*, 2192-2199.
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Projects IMI Projects HARMONY and HARMONY Plus

Memberships International Biometric Society

Other Relevant Information