

Personal data

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Recent work experiences

In April 2009 I started to work as an independent statistician (company name STATISTICOR). I advised on statistical methods and performed statistical analyses in various research fields:

- clinical/medical: Cope Healthcare Solutions - CHS in Bunnik (NL), the Meander Medical Centre in Amersfoort (NL), Pallas Health Research in Rotterdam (NL), Isala Hospitals in Zwolle (NL), SVRZ in Middelburg (NL), Dorati in The Hague (NL), Meteren Orthodontie in Meteren (NL), Kraan Logopedie in 's Hertogenbosch (NL), Baker Tilly Berk in The Hague (NL), Central Military Hospital - CMH - Ministry of Defense in Utrecht (NL), VieCuri Medical Centre in Venlo/Venray (NL).
- technical/logistic: ProRail in Utrecht, Nederlandse Brouwers in Den Haag (NL), Lypack (Leeuwarden), DEMU Utrecht, Environmental Monitoring Systems (EMS) in St. Annaland (NL).
- pharmaceutical: Johnson & Johnson (Janssen-Cilag) in Tilburg (NL-BE), MAPI in Houten (NL), Baxter via Medical Writers in Zürich (CH), Novartis (CH) via GCE Solutions, GlaxoSmithKline (BE) via Pallas, The Surgical Company (Amersfoort) via AZ Herentals (BE).
- socio-economic/demographic: the Netherlands Institute for Social Research (SCP) of the Ministry of Health in The Hague (NL), OVAM (Openbare Vlaamse Afvalstoffenmaatschappij - Public Waste Agency of Flanders) in Mechelen (BE), the Erasmus University Rotterdam (NL), Elsevier in Amsterdam (NL), Venlo Municipality (NL), University of Brussels (BE).

Work as a (bio)statistician

The type of work as a freelance statistician is in general comparable with the type of work I did between 2000 and 2009 as a biostatistician at the Centre for Biostatistics at Utrecht University (UU). Here is an overview of the type of work I did from 2000 on:

- Calculating needed sample size (power analyses) for a broad variety of statistical analyses, including equivalence studies (PASS, PS, by formula, by simulation).
- Writing Statistical Analysis Plans (SAP) for pharmaceutical companies.
- Writing statistical paragraphs in research protocols for clinical and pharmaceutical studies.
- Advising on study design for clinical and biological studies, e.g. randomized clinical trials (phase III trials), case-control designs, matched designs, longitudinal designs and observational studies (like phase IV trials).
- Given a study design, advising on the most efficient and best statistical method to analyze the data, e.g. logistic regression, Kaplan-Meier, Cox regression, anova, linear regression, linear mixed effects model, factor analysis, cluster analysis, homals, propensity score modelling and meta-analysis.
- Analyzing data with all kind of statistical methods (using SPSS, R, S-Plus, SAS, WPS), including all steps that are required before the final analyses can be performed, e.g. handling and combining large data sets, handling missing data, outlier tests, recoding and scaling methods, handling non-compliance, bootstrap-methods.
- Writing complete papers and writing/revising statistical paragraphs in journals.

- Programming in R of all kind of analyses, like mixed models, regression models and simulation studies, for instance to estimate the influence of confounders in logistic regression and propensity score methods.
- Programming in SAS to obtain all type of tables on demography, safety and efficacy of clinical studies and perform statistical analyses.
- Programming in SPSS to obtain all kinds of tables, graphs and statistical analyses.
- Programming in Excel of simple but convenient statistical tools, e.g. effect sizes, alternative confidence intervals for proportions (Agresti-Coull, Wilson etc.), Kruskal-Wallis multiple comparisons, confidence interval odds ratios, weighted Kappa, Cronbachs alpha, AUC for ROC, odds ratio for fixed and random effects models in meta-analysis etc.

Work for pharmaceutical companies

From 2011 on I did several statistical activities for pharmaceutical companies. For Johnson & Johnson, I wrote DPSs and SAPs, performed sample size calculations, wrote and reviewed statistical paragraphs in protocols, performed statistical analyses in Phase III and IV trials (in SAS), used all kind of basic methods, but also advanced methods like principal component analysis (PCA), propensity scores, mixed models, logistic regression and cluster analysis. I worked on a variety of research projects, mostly related on drug development for psychiatric patients.

For Novartis in Switzerland I worked in the area of Dementia and analyzed data, worked on statistical parts of a protocol, wrote SAPs for health authority questions and reviewed output.

For MAPI (who had an assignment from a pharmaceutical company) I performed a variety of specialized propensity score analyses, both on primary endpoints and on AEs.

For Baxter (via Medical Writers) I wrote a SAP and performed several comparative analyses and regression analyses on medical devices.

Work as a teacher/lecturer

In the last decade I gave many colleges in statistics to both small groups (25 students) and large groups (up to 200 students), such as basic statistics courses and specialized courses such as Factor and cluster analysis, Multi-level analysis and Regression analysis. At biostatistical congresses I gave lectures, mainly on topics of my thesis (clinical trials, confounding, propensity scores and instrumental variables).

Prior work experiences and education

1995 until 2000: Senior scientific researcher/statistician at the Institute for Sociologic Economic Research (ISEO), Erasmus University Rotterdam (EUR). I performed a variety of statistical methods, did research in the sociological and economical fields and advised colleagues on statistics.

1989 until 1995: Junior scientific researcher/statistician at ISEO, EUR.

1983 until 1989: Economy study at Erasmus Universiteit Rotterdam, specialized in statistics with modules as regression analysis, multivariate analysis, factor analysis, decision theory, sampling theory, multivariate causal analysis and multidimensional scaling.

2003 until 2007: Part-time I worked on my thesis "Methods to adjust for confounding" at the division of Pharmacoepidemiology & Clinical Pharmacology of the Department of Pharmaceutical Sciences of the Utrecht University, in collaboration with the Center for Biostatistics of the Utrecht University.

December 10th 2007: Thesis defense, Utrecht.

Publications

Statistical/epidemiological

- Martens, EP. Methods to adjust for confounding: propensity scores and instrumental variables, PhD. Thesis, dec. 2007 (download from <http://www.statisticor.nl/methods-to-adjust-for-confounding.php>).
- Martens EP, Pestman WR, de Boer A, Belitser SV, Klungel OH. Systematic differences in treatment effect estimates between propensity score methods and logistic regression, *International Journal of Epidemiology*, 2008; 37(5):1142-1147.
- Martens EP, de Boer A, Pestman WR, Belitser SV, Stricker BHCh, Klungel OH. Comparing treatment effects after adjustment with multivariable Cox proportional hazards regression and propensity score methods. *Pharmacoepidemiology and Drug Safety*, 2008; 17(1):1-8.
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- Klungel OH, Martens EP, Psaty BM, Grobbee DE, Sullivan SD, Stricker BHCh, Leufkens GM, de Boer A. Methods to assess intended drug effects of drug treatment in observational studies are reviewed. *Journal of Clinical Epidemiology* 2004, 57:1223-123.
- Svetlana V Belitser, Edwin P Martens, Wiebe R Pestman, Rolf H H Groenwold, Anthonius de Boer, Olaf H Klungel, *Measuring balance and model selection in propensity score methods. Pharmacoepidemiology and Drug Safety* 2011; 20(11):1115-29. DOI:10.1002/pds.2188

Clinical/medical/pharmaceutical

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- Wilting I, Fase S, Martens EP, Heerdink ER, Nolen WA, Egberts ACG. *The impact of environmental temperature on lithium serum levels.* Bipolar Disorders, 2007; 9:603-608.
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- Schep NW, Heintjes RJ, Martens EP, van Dortmont LM, van Vugt AB. *Retrospective analysis of factors influencing the operative result after percutaneous osteosynthesis of intracapsular femoral neck fractures, Injury*, 2004 Oct;35(10):1003-9.
- Samsom M, Vermeijden JR, Smout AJ, Van Doorn E, Roelofs J, Van Dam PS, Martens EP et al. *Prevalence of delayed gastric emptying in diabetic patients and relationship to dyspeptic symptoms: a prospective study in unselected diabetic patients,* Diabetes Care. 2003 Nov;26(11):3116-22.
- Zondag CHJ, Blom ATg, Broekema WJ, Leemans L, Martens EP, Schobben AFAM. *De introductie en het effect. Geneesmiddeleninformatie op een psychiatrische afdeling.* Pharmaceutisch Weekblad 2002; 137(11):390-396.
- Te Velde EA, Martens EP, Fioule B, Draaisma W, Vogten JM, Van Diest PJ, Borel IHM, Rinkes D. *Pringle maneuver during hepatectomy correlates with increased metastatic recurrence; A retrospective as well as experimental study,* 2002.
- Hoogeveen RC, Martens EP, Van der Stelt PF, Berkhout WER, *Assessment of Random Error in Phantom Dosimetry with the Use of Error Simulation in Statistical Software,* BioMed Research International, Volume 2015 (2015), Article ID 596858.

Biological

- Vinck A, Terlouw M, Pestman WR, Martens EP, Ram AF, van den Hondel CA, Wösten HAB. *Fungi deploy specialized hyphae for waste processing.* Ned. Tijdschrift voor Microbiologie, 2005, 58.
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- Sommeijer MJ, de Bruijn LLM, Meeuwse FJA, Martens EP. *Reproductive behaviour of stingless bees: nest departures and nuptial flights in Melipona favosa*. 2003.

Sociological (selection)

- Smeets HMAG, Martens EP, Roelandt Th, Veenman JK. *Jaarboek Minderheden 2001*, Bohn Stafleu Van Loghum/Koninklijke Vermande, Houten/Lelystad, 2001 (ook 1994-2000).
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- Martens EP, Roelandt Th. *Allochtonen ouderen in Nederland. Kerncijfers over de sociaal-economische positie en de sociale participatie van Turkse, Marokkaanse, Surinaamse, Antilliaanse en Molukse ouderen*, Voorlopige Raad voor het Ouderenbeleid, Rijswijk, ISEO/EUR, 1993.
- Martens EP, Roelandt Th, Veenman J. *Minderheden in Nederland. Sociale Positie en Voorzieningsgebruik Allochtonen en autochtonen 1991; eerste uitkomsten en methodische verantwoording*, ISEO/EUR, 1992.
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- Roelandt Th, Martens EP en Veenman J, *Achterstand van allochtonen in het onderwijs: sociaal milieu en migratie-achtergronden*, *Mens en Maatschappij*, jrg. 65, nr. 2, 1990.