

Personal data

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Work experiences

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

- clinical/medical: Cope Healthcare Solutions - CHS in Bunnik, the Meander Medical Centre in Amersfoort, Pallas Health Research in Rotterdam, Isala Hospitals in Zwolle, SVRZ in Middelburg, Dorati in The Hague, Meteren Orthodontie in Meteren, Kraan Logopedie in 's Hertogenbosch, Baker Tilly Berk in The Hague, Central Military Hospital - Ministry of Defense in Utrecht, VieCuri Medical Centre in Venlo/Venray, Flevoziekenhuis Almere, AMC-UVA Amsterdam, Haaglanden MC in The Hague.
- pharmaceutical/medical device: Johnson & Johnson (Janssen-Cilag) in Tilburg and Beerse (NL-BE), MAPI in Houten, Baxter via Medical Writers in Zürich (CH), Novartis (CH) via GCE Solutions, GlaxoSmithKline (BE) via Pallas, The Surgical Company (Amersfoort) via AZ Herentals (BE), TEVA, Sequana Medical (CH) via Cromsource and Medical Writers, SEEK (UK) via University of Groningen.
- socio-economic/demographic: the Netherlands Institute for Social Research (SCP) of the Ministry of Health in The Hague, OVAM (Openbare Vlaamse Afvalstoffenmaatschappij - Public Waste Agency of Flanders) in Mechelen (BE), the Erasmus University Rotterdam, Elsevier in Amsterdam, Venlo Municipality, University of Brussels (BE), Focus-PO in Rotterdam.
- market research/technical/logistic: ProRail in Utrecht, Nederlandse Brouwers in Den Haag, Lypack (Leeuwarden), DEMU Utrecht, Customeyes in Amsterdam, Innoforte in Druten, Naturalis in Leiden.
- judicial: De Jong & Laan Accountants in Groningen, Van Benthem & Keulen Lawyers in Utrecht.

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 and medical device 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 and medical device companies

From 2011 on I worked on several statistical projects for pharmaceutical companies, in general for a period of several months-years. 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 score methods, mixed models, logistic regression and cluster analysis. I worked on a variety of research projects, mostly in the field of psychiatry. For Novartis in Switzerland I worked in the area of Dementia and analyzed data, worked on statistical parts of a protocol and SAP (sample size, analyses paragraph), 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 Switzerland (via Medical Writers) I wrote a SAP and performed several comparative analyses and regression analyses on medical devices.

For Sequana Medical Switzerland, a medical device company (via Cromsource and Medical Writers) I programmed analysis data sets and programmed TLFs (tables, listings and figures) for efficacy and primary outcome parameters.

For TEVA Netherlands I wrote SAPs for two phase IV studies, did interim analyses on efficacy and programmed reconciliation reports for safety.

For SEEK (via University of Groningen) I worked on the EU-funded UNISEC project on vaccines, for which I verified the statistical programs written by a statistician in SPSS and R.

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.
- Martens EP, Pestman WR, Klungel OH. "Conditioning on the propensity score can result in biased estimation of common measures of treatment effect: a Monte Carlo study", *Letter to the editor. Statistics in Medicine* 2007, 26;16:3208-3210
- Martens EP, Pestman WR, de Boer A, Belitser SV, Klungel OH. Instrumental variables: application and limitations. *Epidemiology* 2006; 17:260-267.
- 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

- Van Doorn B, Kok ET, Blanker MH, Martens EP, Bohnen AM, Bosch JLH. *The natural history and predictive factors of voided volumes in older men: The Krimpen study.* Journal of Urology, 2010 Nov 11.
- Van Dorp S, Pietersma F, Wöfl M, Verdonck LF, Petersen EJ, Lokhorst HM, Martens E et al. *Rituximab treatment before reduced-intensity conditioning transplantation associates with a decreased incidence of extensive chronic GVHD.* Biol Blood Marrow Transplant, 2009 Jun;15(6):671-8.
- Teske AJ, Prakken NH, De Boeck BW, Velthuis BK, Martens EP, Doevendans PA, Cramer MJ. *Echocardiographic tissue deformation imaging of right ventricular systolic function in endurance athletes.* Eur Heart J. 2009 Apr;30(8):969-77.
- 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.
- Schep NW, Stavenuiter MH, Diekerhof CH, Martens EP, van Haeff CM, Broeders IA, Saris DB. *Intersurgeon variance in computer-assisted planning of anterior cruciate ligament reconstruction.* Arthroscopy, 2005 Aug;21(8):942-7.
- 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 AThG, 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.
- Vinck A, Terlouw M, Pestman WR, Martens EP, Ram AF, van den Hondel CA, Wösten HAB. *Hyphal differentiation in the exploring mycelium of Aspergillus niger*. Mol Microbiol, 2005 Nov;58(3):693-9.
- Van Wijk JP, De Koning EJ, Martens EP, Rabelink TJ. *Thiazolidinediones and Blood Lipids in Type 2 Diabetes, Arteriosclerosis, Thrombosis and Vascular Biology*, 2003 Oct 1;23(10):1744-9.
- Sommeijer MJ, de Bruijn LLM, Meeuwse FJAJ, Martens EP. *Natural patterns of caste and sex allocation in the stingless bees Melipona favosa and M. trinitatis related to worker behaviour*, Insectes Sociaux, vol. 50, 2003.
- Sommeijer MJ, de Bruijn LLM, Meeuwse FJAJ, 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).
- Martens EP, Weijers YMR. *Integratiemonitor 2000*, ISEO, Rotterdam, 2000.
- Odé AWM, Martens EP. 'De maatschappelijke positie van etnische minderheden: achterstand en vooruitgang', in: *Economische Statistische Berichten*, 2000.
- Vogels HMG, Geense P, Martens EP. *De maatschappelijke positie van Chinezen in Nederland*, Gorcum Assen, 1999.
- Martens EP, Veenman J. 'De betekenis van generieke en etnisch-specifieke factoren bij de verklaring van achterstand van etnische minderheden', in: *Mens en Maatschappij*, A'dam Univ. Press, 1998, p. 62-73.
- Martens EP, Verweij AO. *Klaar voor de start, de opvang van zij-instromers in het Nederlandse onderwijs*, Rotterdam, ISEO/EUR, 1998.
- Veenman J, Martens EP. *Achter de feiten aan. De werkloosheid van allochtonen in Nederland*, onderzoek in opdracht van het Ministerie van Sociale Zaken en Werkgelegenheid, ISEO/EUR, 1994.
- 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.
- Roelandt Th, Martens EP, Veenman J. *Ethnic Minority Children in Dutch Education: Ethnic Stratification, Social Class and Migration*, *The Netherlands' Journal of Social Sciences*, vol. 27, no. 2, 1991.
- Roelandt Th, Martens EP. *Ongelijke kansen in het onderwijs: sociale herkomst, migratie en etniciteit*, in: Veenman, J. (red.), *Ver van huis, Achterstand en achterstelling bij allochtonen*, Wolters-Noordhoff, '90.
- 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.