

# Dr. Maarten J. Bijlsma

April 2024

maarten.bijlsma@gmail.com  
<https://maartenbijlsma.com/>

[github.com/maartenbijlsma](https://github.com/maartenbijlsma)  
[linkedin.com/in/maartenbijlsma/](https://www.linkedin.com/in/maartenbijlsma/)

## PROFILE SUMMARY

---

Applied statistician and epidemiologist with several years of experience applying computer-intensive methods based in counterfactual causal inference to large databases. I have many years of international and intercultural experience, and some teaching, consultancy and management experience. My focus in the past few years has been on implementation and extension of the parametric g-formula, a highly flexible method used in both social and medical science for modelling dynamic treatment regimes. I have an emerging interest in Bayesian estimation and in machine learning methods.

## EMPLOYMENT

---

2022 August – Current	<b>Senior Clinical Data Scientist - Biostatistician</b> Netherlands Comprehensive Cancer Organisation (IKNL), Eindhoven, the Netherlands
2021 – 2022	<b>Assistant Professor</b> of Precision Drug Therapy & Real World Evidence Groningen Research Institute of Pharmacy, University of Groningen, the Netherlands.
2015 – 2021	<b>Deputy Head</b> (2020-2021); <b>Research Scientist</b> (2015-2020) Laboratory of Population Health, Max Planck Institute for Demographic Research, Germany
2011 – 2015	<b>PhD Fellow</b> (AIO) Unit Pharmacoepidemiology & Pharmacoeconomics, University of Groningen, the Netherlands
<i>Guest affiliations</i>	
2022 – current	Groningen Research Institute of Pharmacy, University of Groningen, the Netherlands (supervision of 2 PhD students)
2021 – current	Max Planck Institute for Demographic Research, Germany (supervision of 1 PhD student)
<i>Visiting scholarships</i>	
2018	Population Studies Center, Univ. of Pennsylvania, USA
2015	Department of Medical Statistics, London School of Hygiene and Tropical Medicine, UK
2011	Department of Social Statistics & Demography, University of Southampton, UK

## EDUCATION

---

2016	<b>Ph.D.</b> Pharmacoepidemiology Advisors:	University of Groningen, the Netherlands Prof. Dr. Eelko Hak (Epidemiologist) Prof. Dr. Stijn Vansteelandt (Statistician) Prof. Dr. Fanny Janssen (Demographer)
2014	<b>M.Sc.</b> Applied Statistics*	University of Ghent, Belgium
2011	<b>M.Sc.</b> Demography (research)**	University of Groningen, the Netherlands

\* *with distinction*; \*\* *with highest distinction*

## STATISTICAL LANGUAGES & SOFTWARE

---

### *Statistical programmes and languages*

R	Expert: 10+ years of daily programming experience.
Stan	Intermediate
Python	Working knowledge
SAS;SPSS;Stata	Working knowledge

### *Database querying languages*

MySQL, SQL server Working knowledge

### *Authored statistical packages (R programming language)*

cfdecomp allows decomposition of differences between populations, uses Monte Carlo integration for added flexibility. Available on [CRAN](#).

## PEER REVIEWED PUBLICATIONS

---

- 2024 Verweij S, Ahmed W, Zhou G, Mavridis D, Nikolakopoulos S, Elferink AJ, Oude Rengerink K, **Bijlsma MJ**, Mol PGM, Hak E. Do efficacy results obtained from randomised controlled trials translate to effectiveness data from observational studies for relapsing-remitting multiple sclerosis? *Pharmacoepidemiology & Drug Safety*. Accepted for Publication.
- 2024 Gueltzow M, Oude Groeniger J, **Bijlsma MJ**, Janssen PW, Houweling TAJ, van Lenthe FJ. Childhood Obesity's Influence on Socioeconomic Disparities in Young Adolescents' Mental Health. *Annals of Epidemiology* 2024;12:94:19-26.
- 2023 Mommers I, Van Boven JFM, Schuiling-Venginga CM, HJ Bos, Koetsier M, Hak E, **Bijlsma MJ**. Real-world dispensing patterns of inhalation medication in young adult asthma: an inception cohort study. *Clinical Epidemiology* 2023;15:721-732
- 2023 Gueltzow M, **Bijlsma MJ**, Myrskylä M, Van Lenthe F. The role of labor market inequalities in explaining the gender gap in depression risk among older US adults. *Social Science & Medicine* 2023;3 32:116100.

- 2023 Burgos Ochoa L, **Bijlsma MJ**, Steegers EAP, Been JV, Bertens LCM. Does neighbourhood crime mediate the relationship between neighbourhood socioeconomic status and birth outcomes? An application of the mediational g-formula. *American Journal of Epidemiology* 2023; 192(6): 939-948.
- 2023 Gil Clavel BS, Grow A, **Bijlsma MJ**. Migration Policies and Immigrants' Language Acquisition in EU-15: Evidence from Twitter. *Population and Development Review* 2023; 49 (3): 469-497
- 2023 Li X, **Bijlsma MJ**, Bos HJ, Schuiling-Veninga CCM, Hak E. Long-term Comparative Effectiveness of Anti-hypertensive Monotherapies in Primary Prevention of Cardiovascular Events: A Population-Based Retrospective Inception Cohort Study in the Netherlands. *BMJ Open* 2023;13(8): e068721.
- 2023 Hu Y, Korhonen K, Li P, Bobak M, Martikainen P, **Bijlsma MJ**. Association between alcohol use disorders and dementia in 262,703 dementia-free Finnish adults: Is cardiovascular disease a mediator? *The Journals of Gerontology: Series A* 2023;78(6):1045-1052.
- 2023 Zhou G, Verweij S, **Bijlsma MJ**, De Vos S, Oude Rengerink K, Pasmooij AMG, Van Baarle D, Niester HGM, Mol P, Vonk JM, Hak E. Repurposed drug studies on the primary prevention of SARS-CoV-2 infection during the pandemic: systematic review and meta-analysis. *BMJ Open Respiratory Research*; 10:e001674.
- 2023 Alghamdi A, **Bijlsma MJ**, De Vos S, Schuiling-Veninga CCM, Bos HJ, Hak E. Association between incidence of prescriptions for Alzheimer's disease and beta-adrenoceptor antagonists: a prescription sequence symmetry analysis. *Pharmaceuticals* 2023;16(12):1694.
- 2023 Eijkelboom AH, De Munck L, Larthe M, **Bijlsma MJ**, ..., Wesseling J, Hofvind S, Siesling S. Impact of the COVID-19 pandemic on breast cancer incidence and tumor stage in the Netherlands and Norway: a population-based study. *Cancer Epidemiology* 2023;87:102481.
- 2022 Nisén J, **Bijlsma MJ**, Martikainen P, Wilson B, Myrskylä M. The gendered impacts of delayed parenthood: a dynamic analysis of young adulthood. *Advances in Life Course Research* 2022; 53: 100496.
- 2022 Sen T, Koshino A, Neal B, **Bijlsma MJ**, Arnott C, Li J, Hansen M, Ix J, Heerspink H. Mechanisms of action of the sodium-glucose cotransporter-2 (SGLT2) inhibitor canagliflozin on tubular inflammation and damage: A post hoc mediation analysis of the CANVAS trial. *Diabetes, Obesity and Metabolism* 2022; 24(10):1950-1956.
- 2022 Gueltzow M, **Bijlsma MJ**, Van Lenthe F, Myrskylä M. The contribution of health behaviors to depression risk across birth cohorts. *Epidemiology* 2022 1;33(6):880-889.
- 2022 Högnäs RS, **Bijlsma MJ**, Högnäs U, Blomqvist S, Westerlund H, Magnussen Hanson L. It's giving me the blues: a fixed-effects and g-formula approach to understanding job insecurity, sleep disturbances, and major depression. *Social Science and Medicine*; 297: 114805.

- 2021 Hale JM, **Bijlsma MJ**, Lorenti A. Does postponing retirement affect cognitive function? A counterfactual experiment to disentangle life course risk factors. *Social Science and Medicine: Population Health*; 15: 100855.
- 2021 Sudharsanan N, **Bijlsma MJ**. Educational note: Causal decomposition of population health differences using Monte Carlo integration and the g-formula. *International Journal of Epidemiology* 2021 DOI: 10.1093/ije/dyab090.
- 2021 Pitkanen, **Bijlsma MJ**, Remes H, Altonen M, Martikainen P. The effect of low childhood income on self-harm in young adulthood: mediation by adolescent mental health, behavioural factors and school performance. *Social Science & Medicine: Population Health* 2021; 13: 100756.
- 2021 Sudharsanan N, Diallo AO, Ali MK, Geldsetzer P, Gower EW, Mukama T, Wagner RG, Davies J, **Bijlsma MJ**. Questioning a South African hypertension threshold of 150 mm Hg – Authors’ reply. *The Lancet: Healthy Longevity* 2021. DOI: 10.1016/S2666-7568(21)00095-7.
- 2021 Diallo AO, Ali MK, Geldsetzer P, Gower EW, Mukama T, Wagner RG, Davies J, **Bijlsma MJ**, Sudharsanan N. Systolic blood pressure and mortality in South Africa: Evidence from a nationally representative cohort study. *The Lancet: Healthy Longevity* 2021; 2:2, e78–e86.
- 2020 **Bijlsma MJ**, Wilson B. Modelling the socio-economic determinants of fertility: a mediation analysis using the parametric g-formula. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 2020; 183(2):493-513.
- 2019 **Bijlsma MJ**, Wilson B, Tarkiainen L, Myrskylä M, Martikainen P. The impact of unemployment on antidepressant purchasing: adjusting for unobserved time constant confounding in the g-formula. *Epidemiology* 2019;30: 388–395.
- 2018 Vidra N, **Bijlsma MJ**, Trias-Llimós S, Janssen F. Past trends of obesity attributable mortality in eight European countries: an application of age-period-cohort analysis. *International Journal of Public Health* 2018; 63(6):683-692.
- 2018 Vidra N, **Bijlsma MJ**, Janssen F. Impact of Different Estimation Methods on Obesity-Attributable Mortality Levels and Trends: The Case of The Netherlands. *Int J Environ Res Public Health*. 2018;15(10):2146.
- 2018 Mulder B, **Bijlsma MJ**, Schuiling-Veninga CCM, Morssink LP, van Puijenbroek E, Aarnoudse JG, Hak E, de Vries TW. Risks versus benefits of medication use during pregnancy: what do women perceive? *Patient Preference & Adherence* 2018; 12: 1–8.
- 2017 **Bijlsma MJ**, Tarkiainen L, Myrskylä M, Martikainen P. Unemployment and subsequent depression: a mediation analysis using the parametric g-formula. *Social Science & Medicine* 2017;194:142-150.
- 2017 **Bijlsma MJ**, Daniel RM, Janssen F, De Stavola BL. An assessment and extension of the mechanism-based approach to the identification of age-period-cohort models. *Demography* 2017; 54: 721-743.

- 2017 Trias-Llimós S, **Bijlsma MJ**, Janssen F. The role of birth cohorts in long-term trends in liver cirrhosis mortality across eight European countries. *Addiction* 2017; 112(2):250-258.
- 2017 Darvishian M, Dijkstra F, Van Doorn E, **Bijlsma MJ**, Donker GA, De Lange MA, Cadenau LM, Hak E, Meijer A. Influenza vaccine effectiveness in the Netherlands from 2003/2004 through 2013/2014: the importance of circulating influenza virus types and subtypes. *PLoS One*. 2017 9;12(1).
- 2016 **Bijlsma MJ**, Janssen F, Hak E. Estimating time-varying drug adherence using electronic records: extending the Proportion of Days Covered (PDC) method. *Pharmacoepidemiology & Drug Safety* 2016;25(3):325-32.
- 2016 **Bijlsma MJ**, Vansteelandt S, Janssen F, Hak E. The effect of adherence to statin therapy on cardiovascular mortality: quantification of unmeasured bias using falsification endpoints. *BMC Public Health*. 2016 11;16:303.
- 2016 Berm EJJ, Odigie B, **Bijlsma MJ**, Wilffert B, Touw DJ, Maring JG. A clinical validation study for application of dried blood spots in therapeutic drug monitoring of antidepressants. *Bioanalysis* 2016;8(5):413-24.
- 2016 Nguyen TP, Wright EP, Nguyen TT, Schuiling-Veninga CC, **Bijlsma MJ**, Nguyen TB, Postma MJ. Cost-effectiveness analysis of screening for and managing identified hypertension for cardiovascular disease prevention in Vietnam. *PLoS One*. 2016; 11(5).
- 2015 **Bijlsma MJ**, Janssen F, Bos HJ, Kamphuisen PW, Vansteelandt S, Hak E. Brief Report: Association Between Statin Use and Cardiovascular Mortality at the Population Level: An Ecologic Study. *Epidemiology* 2015;26(6):802-5.
- 2015 **Bijlsma MJ**, Janssen F, Lub R, Bos HJ, De Vries FM, Vansteelandt S, Hak E. Birth cohort appeared to confound effect estimates of guideline changes on statin utilization. *Journal of Clinical Epidemiology* 2015; 68(3):334-40.
- 2015 Kröpelin TF, de Zeeuw D, Andress DL, **Bijlsma MJ**, Persson F, Parving HH, Lambers Heerspink HJ. Number and Frequency of Albuminuria Measurements in Clinical Trials in Diabetic Nephropathy. *Clinical Journal of the American Society of Nephrology* 2015; 10(3):410-6.
- 2014 **Bijlsma MJ**. Commentary: G-computation might be used to control for confounding when estimating the population-level impact of interventions through outcome distribution curves. *Journal of Clinical Epidemiology*. 2014. 67(11):1286.
- 2014 Darvishian M, **Bijlsma MJ**, Hak E, Van den Heuvel ER. Seasonal influenza vaccine effectiveness among the community-dwelling elderly: a meta-analysis of test-negative design case-control studies. *The Lancet: Infectious Diseases* 2014; 14(12):1228-39.
- 2014 Gefenaite G, **Bijlsma MJ**, Bos HJ, Hak E. Did introduction of pneumococcal vaccines in the Netherlands decrease the need for respiratory antibiotics in children? Analysis of 2002 to 2013 data. *Eurosurveillance*. 2014; 19(44).
- 2013 **Bijlsma MJ**, Hak E, Bos HJ, De Jong-van den Berg LTW, Janssen F. Assessing the effect of a guideline change on prevalence of benzodiazepine use by including the birth

- cohort dimension: interrupted time series studies. *Pharmacoepidemiology & Drug Safety* 2013; 22(9): 933-941.
- 2012 Klaassens M, **Bijlsma MJ**. New places of remembrance: Individual Web memorials in the Netherlands. *Death Studies* 2013. DOI: 10.1080/07481187.2012.742474.
- 2012 **Bijlsma MJ**, Hak E, Bos HJ, De Jong-Van den Berg LTW, Janssen F. Inclusion of the birth cohort dimension improved description and explanation of trends in statin use. *Journal of Clinical Epidemiology* 2012; 65: 1052-1060.

#### Preprints

---

- 2024 Katsimpokis D, Aarts MJ, Geleijnse G, Kunst P, **Bijlsma MJ**. Income inequality and access to advanced immunotherapy for lung cancer: the case of Durvalumab in the Netherlands. MedRxiv. doi: 10.1101/2024.04.24.24306222.
- 2023 Clouth FJ, **Bijlsma MJ**, Pauws S, Vermunt JK. Causal inference for latent Markov models using the parametric g-formula. PsyArXiv. doi:10.31234/osf.io/efkv4.

#### ACQUISITION of FUNDING

---

- 2021 Dutch Medicines Evaluations Board (CBG) Research Grant to fund a joint PhD student on the topic of Real World Evidence (RWE) for regulatory decision making.  
Valued: € 377,500.-
- 2011 Ubbo Emmius Grant in 2011 to fund my PhD research. Value: € 198,693.- over 4 years, ca. \$ 284,875.- using the August 2011 exchange rate  
Valued: € 198,693.-

#### INVITED TALKS

---

- |                |  |
|----------------|--|
| 2024, April 17 | (Digital talk) Data Science Unit, Hamburg Cancer Registry, Germany.  |
| 2023, May 2    | Dept. of Methodology, Tilburg University, the Netherlands.   |
| 2022, Jan 25   | (Digital talk) Helsinki Institute for Social Science and Humanities, Methodological Unit Seminar, University of Helsinki, Finland. |
| 2021, July 16  | (Digital talk) Centre for Population Change, University of Southampton, United Kingdom.  |
| 2021, May 25   | (Digital talk) Dept. of Public Health, Erasmus University Medical Center, Rotterdam, the Netherlands.                              |
| 2021, May 14   | (Digital talk) Cornell Population Center, Cornell University, New York, USA.   |
| 2021, April 12 | (Digital talk) Stress Institute, Stockholm University, Sweden.   |
| 2020, Nov 12   | (Digital talk) Dept. of Clinical Epidemiology, Karolinska Institute, Sweden  |
| 2019, Dec 13   | Centre for Demographic Studies, Barcelona, Spain.  |
| 2019, Dec 5    | Interdisciplinary Centre on Population Dynamics, Odense, Denmark.  |
| 2019, Feb 12   | Institute for Global Health, Heidelberg University, Germany.   |
| 2019, Jan 17   | Dept. of Medical Epidemiology and Biostatistics, Karolinska Institute,   |

	Sweden.
2019, Jan 10	Demography Unit, Dept. of Sociology, Stockholm University, Sweden.
2019, Jan 9	Dept. of Public Health Sciences, Stockholm University, Sweden.
2018, April 23	Population Studies Center, University of Pennsylvania, Pennsylvania, USA.
2017, Oct 30	Nuffield College, Oxford University, United Kingdom.
2017, Jan 20	Population Research Unit, University of Helsinki, Finland.
2015, Sept 3	Netherlands Interdisciplinary Demographic Institute, the Hague, the Netherlands.
2015, May 21	Dept. of Medical Statistics, London School of Hygiene & Tropical Medicine, United Kingdom.
2015, May 20	Dept. of Social Policy, London School of Economics & Political Science, United Kingdom.
2015, May 7	Dept. of Methodology, London School of Economics & Political Science, United Kingdom.

## CONFERENCE PRESENTATIONS

---

Full list is available on request. I have given oral and poster presentations at large national, European, and North American demography and (pharmaco)epidemiology conferences.

## PROFESSIONAL ACTIVITIES

---

### **Professional associations**

International Society for Pharmacoepidemiology (ISPE), Netherlands Society for Statistics and Operations Research (VVSOR).

### **Other professional activities**

2012 – 2021	Co-founder and editor of Demotrends: weblog on demographic trends and research. <a href="https://demotrends.org/">https://demotrends.org/</a>
2017 – 2018	Organizer Rostock Retreat on Causality (Budget: € 25,000.-).
2011 – 2012	Member PhD council SHARE Research Institute for Health Research, University Medical Centre Groningen.

## SUPERVISION

---

### *Supervision of Ph.D. students*

- Daily supervisor (co-promotor) of Stefan Verweij since November 2021 on the topic of real world evidence (RWE) for regulatory decision making (joint affiliation between the Dutch Medicines Evaluations Board (CBG) and PTEE / GRIP / University of Groningen).
- Daily supervisor (co-promotor) of Irene Mommers since October 2021 on the topic of precision drug therapy (PTEE / GRIP / University of Groningen).
- Daily supervisor (co-promotor) of Maria Gueltzow since 2020 (IMPRS-PHDS MPIDR

core student, affiliated with Erasmus Medical Center Rotterdam).

## TEACHING and COURSE COORDINATION

---

### *Course coordination*

- International Max Planck Research School – Population, Health and Data Science course “Population Health”, Max Planck Institute for Demographic Research, Germany in 2020.

### *Teaching*

- Taught ‘Biostatistics’ in 2021, Pharmacy Department, University of Groningen.
- Developed and taught a 5-day course ‘Introduction to Counterfactual Causal Inference’. European Doctoral School of Demography, Autonomous University of Barcelona, Spain, Taught in December 2019 and in 2020.
- Developed and taught a 5-day workshop ‘Causal Mediation Analysis’. University of Helsinki, Finland, Taught in May 2018 and May 2019. Student Rating: 4.5 out of 5.
- Taught ‘Introduction to Survival Analysis’. Department of Demography, University of Groningen. Jan 2014 and Jan 2015. Student Rating: 4.0 out of 5.

## REVIEWED FOR

---

Advances in Life Course Research;  
Archives of Gerontology & Geriatrics;  
Clinical Epidemiology;  
Communications in Statistics: Theory and Methods;  
Death Studies;  
Demography;  
Demographic Research;  
Drug Safety;  
European Journal of Epidemiology;  
European Journal of Population;  
Epidemiology;  
Frontiers in Pharmacology;  
Health & Place;  
Injury Epidemiology;  
International Journal of Cardiology;  
International Journal of Chronic Obstructive Pulmonary Disease;  
International Journal of Epidemiology;  
International Journal of Women's Health;  
Journal of Clinical Medicine;  
Journal of Comparative Effectiveness Research;  
Journal of the Royal Statistical Society Series A (Statistics in Society);  
Journal of Women's Health;  
Nutrition, Metabolism & Cardiovascular Diseases;

\*Pharmacoepidemiology & Drug Safety;  
 Philosophical Transactions of the Royal Society B (Biological Sciences);  
 PLoS ONE;  
 Public Understanding of Science;  
 Rejuvenation Research;  
 Statistics in Medicine;  
 Statistical Methods in Medical Research.

\* Rated by the editorial board as top reviewer in 2019 and 2021 based on quality and timeliness of reviews.

WEBLOG ENTRIES ( <https://demotrends.org/> )

---

2015, Sept 1 <sup>st</sup>	Bijlsma MJ. Inferring population-level effects from individual-level effect estimates: G-computation.
2014, Feb 17 <sup>th</sup>	Bijlsma MJ. A hot topic and a futile quest? The recent discussion on age-period-cohort analysis.
2013, Sept 4 <sup>th</sup>	Bijlsma MJ. The bias-variance tradeoff, what it means for quantitative researchers.
2013, Aug 23 <sup>rd</sup>	Bijlsma MJ. Homage to the Lexis diagram.
2013, Feb 12 <sup>th</sup>	Bijlsma MJ. Demography and Epidemiology: Past and Future Directions.

DUTCH LANGUAGE PUBLICATIONS \* denotes peer reviewed publication

---

2017*	Van Doorn E, Darvishian M, Dijkstra F, <b>Bijlsma MJ</b> , Donker GA, de Lange MMA, Cadenau LM, Hak E, Meijer A. Effectiviteit van influenzavaccinatie in Nederland: dominant circulerend virustype en match zijn bepalend. <i>Nederlands Tijdschrift voor Geneeskunde</i> 2017;161:D1648.
2015	<b>Bijlsma MJ</b> , Janssen F, Bos HJ, Kamphuisen PW, Vansteelandt S, Hak E. Associatie tussen gebruik van statine en cardiovasculaire sterfte in Nederland 1994-2010: een ecologische studie. <i>Medisch Farmaceutische Mededelingen</i> 2015; 4: 23-5.
2014*	<b>Bijlsma MJ</b> , Oortgiesen BE, Beernink RHJ, Bos J, Wilffert B, Hak E. Het effect van de CBG-waarschuwing op de trend in SSRI- gebruik in Nederland van 1998 tot 2010. <i>Pharmaceutisch Weekblad Wetenschappelijk Platform</i> 2014;8:A1406.
2011*	<b>Bijlsma MJ</b> , Bos HJ, De Jong-van den Berg LTW, Janssen F. Periodepatronen, leeftijdpatronen en cohortpatronen in de prevalentie van benzodiazepinegebruik en statinegebruik: de invloed van veranderde richtlijnen. <i>Pharmaceutisch Weekblad Wetenschappelijk Platform</i> 2011; 5(10): 169-173.
2010	<b>Bijlsma MJ</b> , Moerman JM. Herdenken in een post-geografische ruimte. <i>Rooilijn</i> 2010; 43(1): 22-7.

LANGUAGES

---

Dutch	Native speaker.
English	Highly advanced proficiency.

German	Independent user.
Spanish	Beginner (learning in progress)

## REFERENCES

---

Available on request.