

## Curriculum Vitae

Til Stürmer

### PERSONAL

**Place of Birth:** Basel, Switzerland

**Business Address:** Department of Epidemiology, School of Public Health  
University of North Carolina at Chapel Hill  
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### EDUCATION

2001                    **“Habilitation” (Doctor of Philosophy Degree equivalent; see <http://en.wikipedia.org/wiki/Habilitation>):**  
Epidemiology  
University of Heidelberg, Germany  
Dissertation: Increase in power and efficiency of case-control studies by novel strategies of frequency matching  
Advisor: Dr. Hermann Brenner

1993                    **Master of Public Health:**  
Epidemiology  
Harvard School of Public Health  
Advisor: Dr. Alexander M. Walker

1989                    **“Dr. med.” (European Doctorate in Medicine):**  
Medicine  
University of Basel, Switzerland  
Thesis: Epidemiologic follow-up study of the health impact of analgesic abuse in Switzerland: overall and cause-specific mortality 1967 – 1986.  
Advisor: Dr. Ulrich C. Dubach

1984                    **“Staatsexamen” (Doctor of Medicine M.D. equivalent):**  
Medicine  
University of Basel, Switzerland

1978                    **“Abitur” (Bachelor of Science equivalent):**  
Mathematics, Physics, Chemistry, Languages  
Bäumlihofgymnasium Basel, Switzerland

## PROFESSIONAL EXPERIENCE

### **Director**

2013 – Present                      Comparative Effectiveness Research (CER) Strategic Initiative,  
NC TraCS Institute, UNC Clinical and Translational Science  
Award (CTSA)

### **Chair, Admissions Committee**

2013 – Present                      Department of Epidemiology, School of Public Health  
University of North Carolina at Chapel Hill

### **Adjunct Professor**

2011 – Present                      University of Arhus, Faculty of Health Sciences, Institute for  
Clinical Medicine

### **Adjunct Professor of Pharmacy**

2011 – Present                      UNC Eshelman School of Pharmacy  
University of North Carolina at Chapel Hill

### **Professor of Epidemiology**

2010 – Present                      Department of Epidemiology, School of Public Health  
University of North Carolina at Chapel Hill

### **Head, pharmacoepidemiology program**

#### **Director, Center for Pharmacoepidemiology**

2008 – Present                      Department of Epidemiology, School of Public Health  
University of North Carolina at Chapel Hill

### **Associate Professor of Epidemiology (tenured)**

2008 – 2010                        Department of Epidemiology, School of Public Health  
University of North Carolina at Chapel Hill

### **Adjunct Head**

2006 – 2010                        Section Pharmacoepidemiology  
Department of Clinical Pharmacology and Pharmacoepidemiology  
University Hospital  
University of Heidelberg, Germany

### **Associate Professor of Medicine**

2005 – 2008                        Department of Internal Medicine  
Division of Pharmacoepidemiology and Pharmacoeconomics  
Division of Preventive Medicine  
Brigham and Women's Hospital  
Harvard Medical School  
Boston, MA

### **Visiting Associate Professor of Medicine**

2003 – 2005                        Department of Internal Medicine  
Division of Pharmacoepidemiology and Pharmacoeconomics  
Division of Preventive Medicine  
Brigham and Women's Hospital  
Harvard Medical School

Boston, MA

**Adjunct Associate Professor of Medicine**

2001 – Present                      Faculty of Medicine  
University of Heidelberg, Germany

**Associate Professor of Epidemiology (tenured)**

2000 – 2003                      Department of Epidemiology  
German Centre for Research on Aging  
University of Heidelberg, Germany

**Assistant Professor of Epidemiology**

1996 – 2000                      Department of Epidemiology  
University of Ulm, Germany

**Lecturer in Epidemiology**

1995                                  Department of Medical Sociology  
University of Hamburg, Germany

**Research Fellow**

1992 – 1994                      Division of Preventive Medicine  
Brigham and Women's Hospital  
Harvard Medical School  
Boston, MA

**Resident in Internal Medicine**

1989 – 1991                      Department of Internal Medicine  
University Hospital  
University of Basel, Switzerland

**Intern in Internal Medicine**

1988 – 1989                      Department of Internal Medicine  
University Policlinic  
University of Basel, Switzerland

**Postdoctoral Research Assistant**

1987 – 1988                      Swiss National Science Foundation  
University of Basel, Switzerland

**Intern in Pathology**

1985 – 1986                      Department of Pathology  
University Hospital Liestal  
University of Basel, Switzerland

**HONORS AND MEMBERSHIPS**

2013 – Present                      Member, Food and Drug Administration Drug Safety and Risk  
Management Advisory Committee

2013 – 2014                      President, International Society for Pharmacoepidemiology

2012 – 2015	Member, Executive Board, International Society for Pharmacoepidemiology
2010 – 2013	Principal Investigator, University of North Carolina at Chapel Hill Developing Evidence to Inform Decisions about Effectiveness (DEClDE) Center (Agency for Healthcare Research and Quality)
2009 – 2012	Chair, Public Policy and Ethics committee of the International Society for Pharmacoepidemiology
2008 –	Member, UNC Lineberger Comprehensive Cancer Center
2008 –	Research Fellow, Cecil G. Sheps Center for Health Services Research
2007 – 2009	Chair-Elect, Public Policy and Ethics committee of the International Society for Pharmacoepidemiology
2007 – 2013	Co-representative of the International Society for Pharmacoepidemiology in the Joint Policy Committee of the Societies for Epidemiology (JPC-SE) representing 13 national and international epidemiologic associations
2006 – Present	Fellow, International Society for Pharmacoepidemiology
2006 – 2008	Member, International Society for Clinical Biostatistics
2004 – Present	Fellow, American College of Epidemiology
2003 – 2005	Recipient of competitive 2-year international stipend from the German Research Foundation (STU 235/9-1) to study the value of Propensity Scores in Assessing Pharmacoprevention in the Elderly (declined due to funding restrictions)
2000	Board Certification in Epidemiology, Germany
1998 – Present	Member, German Society for Drug Utilization and Pharmacoepidemiology
1996 – Present	Member, International Society for Pharmacoepidemiology
1996 – Present	Member, Society for Epidemiologic Research
1996 – Present	Member, German Society for Medical Informatics, Biometry and Epidemiology
1996 – Present	Member, German Society of Epidemiology (former Association)
1996	Recipient of competitive stipend of the German Academic Exchange Service (D/96/17743)
1995 – 2003	Member, German Society of Medicine

- 1994 Board Certification in Internal Medicine, Switzerland
- 1992 – 1994 Recipient of competitive 2-year stipend of the Swiss National Science Foundation to study epidemiology in the US (823B-33287)
- 1985 Board Certification in Medicine (license to practice), Switzerland

## PUBLICATIONS

### Books and Chapters

#### 2006

Dreinhöfer K, Dieppe P, Flören M, Günther KP, **Stürmer T**, Puhl W. Evaluation der Indikationsstellung zum Hüftgelenkersatz. In: Hez M, Maschewsky-Schneider U (eds.). Kursbuch Versorgungsforschung. MWV Medizinisch Wissenschaftliche Verlagsgesellschaft, Berlin; 2006. p. 62-63. ISBN 10: 3-939069-12-4. ISBN 13: 978-3-939069-12-6

#### 2003

Whelton A, **Stürmer T**, Porter GA. Non-steroidal anti-inflammatory drugs. In: DeBroe ME, Porter GA, Bennett WM, Verpooten GA (eds.). Clinical Nephrotoxins - Renal Injury from Drugs and Chemicals (2nd ed). Kluwer Academic Publishers, Dordrecht; 2003. p. 279-306

**Refereed Articles** (♣ indicates that the first author is a student or postdoctoral fellow for which I was/am the primary mentor)

**For all publications see:** [http://www.ncbi.nlm.nih.gov/pubmed/?term=sturmer+t\[au\]](http://www.ncbi.nlm.nih.gov/pubmed/?term=sturmer+t[au])

**h-index:** *Web of Science:* **39**; *Google-Scholar:* **51**

#### 2016

207. Postmus I, Warren HR, Trompet S, Arsenault BJ, Avery CL, Bis JC, Chasman DI, de Keyser CE, Deshmukh HA, Evans DS, Feng Q, Li X, Smit RA, Smith AV, Sun F, Taylor KD, Arnold AM, Barnes MR, Barratt BJ, Betteridge J, Boekholdt SM, Boerwinkle E, Buckley BM, Chen YI, de Craen AJ, Cummings SR, Denny JC, Dubé MP, Durrington PN, Eiriksdottir G, Ford I, Guo X, Harris TB, Heckbert SR, Hofman A, Hovingh GK, Kastelein JJ, Launer LJ, Liu CT, Liu Y, Lumley T, McKeigue PM, Munroe PB, Neil A, Nickerson DA, Nyberg F, O'Brien E, O'Donnell CJ, Post W, Poulter N, Vasan RS, Rice K, Rich SS, Rivadeneira F, Sattar N, Sever P, Shaw-Hawkins S, Shields DC, Slagboom PE, Smith NL, Smith JD, Sotoodehnia N, Stanton A, Stott DJ, Stricker BH, **Stürmer T**, Uitterlinden AG, Wei WQ, Westendorp RG, Whitsel EA, Wiggins KL, Wilke RA, Ballantyne CM, Colhoun HM, Cupples LA, Franco OH, Gudnason V, Hitman G, Palmer CN, Psaty BM, Ridker PM, Stafford JM, Stein CM, Tardif JC, Caulfield MJ, Jukema JW, Rotter JI, Krauss RM. Meta-analysis of genome-wide association studies of HDL cholesterol response to statins. *Journal of Medical Genetics* 2016 doi: 10.1136/jmedgenet-2016-103966 [Epub ahead of print]

- 206.♣ Zimmerman KO, Smith B, Benjamin DK, Laughon M, Clark R, Traube C, **Stürmer T**, Hornik CP. Sedation, analgesia, and paralysis during mechanical ventilation of premature infants. *The Journal of Pediatrics* 2016 doi: 10.1016/j.jpeds.2016.07.001. [Epub ahead of print]
- 205.♣ Wyss R, Hansen BB, Ellis AR, Gagne JJ, Desai RJ, Glynn RJ, **Stürmer T**. Evaluating the Validity of Disease Risk Scores for Confounding Control in Non-Experimental Studies: the "Dry-Run" Analysis. *American Journal of Epidemiology* (AJE-00965-2015.R2) [in press]
- 204.♣ Htoo PT, Buse JB, Gokhale M, Marquis MA, Pate V, **Stürmer T**. Effect of Glucagon-like Peptide-1 Receptor Agonists and Dipeptidyl Peptidase-4 Inhibitors on Colorectal Cancer Incidence and Its Precursors. *European Journal of Clinical Pharmacology* 2016;72(8):1013-23.
203. Young JC, **Stürmer T**, Lund JL, Jonsson Funk M. Predictors of prevalent statin use among older adults identified as statin initiators based on Medicare claims data. *Pharmacoepidemiology and Drug Safety* 2016;25(7):836-43.
- 202.♣ Bushnell GA, **Stürmer T**, White A, Pate V, Swanson SA, Azrael D, Miller M. Predicting persistence to antidepressant treatment in administrative claims data: Considering the influence of refill delays and prior persistence on other medications. *Journal of Affective Disorders* 2016;196:138-147.
201. Lund JL, **Stürmer T**, Sanoff HK. Comparative effectiveness of postoperative chemotherapy among older non-metastatic rectal cancer patients treated with preoperative chemoradiotherapy. *Journal of Geriatric Oncology* 2016;7(3):176-86.
200. Chertow GM, Liu J, Monda KL, Gilbertson DT, Brookhart MA, Beaubrun AC, Winkelmayr WC, Pollock A, Herzog CA, Ashfaq A, **Stürmer T**, Rothman KJ, Bradbury BD, Collins AJ. Epoetin alfa and Outcomes in Dialysis amidst Regulatory and Payment Reform. *Journal of the American Society of Nephrology* 2016 Feb 25. pii: ASN.2015111232. [Epub ahead of print]
- 199.♣ Gokhale M, Girman C, Chen Y, Pate V, Jonsson Funk M, **Stürmer T**. Comparison of diagnostic evaluations for cough among initiators of angiotensin converting enzyme inhibitors and angiotensin receptor blockers. *Pharmacoepidemiology and Drug Safety* 2016;25(5):512-20.
198. Nichols HB, Bowles EJA, Islam J, Madziwa L, **Stürmer T**, Tran DT, Buist DSM. Tamoxifen initiation after ductal carcinoma in situ. *Oncologist* 2016;21(2):134-40.
197. Jirón M, Pate V, Hanson LC, Lund JL, Jonsson Funk M, **Stürmer T**. Trends in Prevalence and Determinants of Potentially Inappropriate Prescribing in the US 2007 – 2012. *Journal of the American Geriatric Society* 2016;64(4):788-97.
- 196.♣ Gokhale M, Buse JB, Pate V, Marquis MA, **Stürmer T**. More realistic power estimation for new user, active comparator studies: an empirical example. *Pharmacoepidemiology and Drug Safety* 2016;25(4):462-6.

## 2015

195. Cai M, Kappelman MD, Girman CJ, Jain N, **Stürmer T**, Brookhart MA. Trends and Determinants of Oral Anti-Diabetic Initiation in Youth with Suspected Type 2 Diabetes. *PLoS One* 2015;10(10):e0140611.
194. Bis JC, Sitlani C, Irvin R, Avery CL, Smith AV, Sun F, Evans DS, Musani SK, Li X, Trompet S, Krijthe BP, Harris TB, Quibrera PM, Brody JA, Demissie S, Davis BR,

- Wiggins KL, Tranah GJ, Lange LA, Sotoodehnia N, Stott DJ, Franco OH, Launer LJ, **Stürmer T**, Taylor KD, Cupples LA, Eckfeldt JH, Smith NL, Liu Y, Wilson JG, Heckbert SR, Buckley BM, Ikram MA, Boerwinkle E, Chen YD, de Craen AJ, Uitterlinden AG, Rotter JI, Ford I, Hofman A, Sattar N, Slagboom PE, Westendorp RG, Gudnason V, Vasani RS, Lumley T, Cummings SR, Taylor HA Jr, Post W, Jukema JW, Stricker BH, Whitsel EA, Psaty BM, Arnett D. Drug-Gene Interactions of Antihypertensive Medications and Risk of Incident Cardiovascular Disease: A Pharmacogenomics Study from the CHARGE Consortium. *PLoS One* 2015;10(10):e0140496.
193. Lund JL, Richardson DB, **Stürmer T**. The active comparator, new user study design in pharmacoepidemiology: historical foundations and contemporary application. *Current Epidemiology Reports* 2015;2:221-8.
192. Sanoff HK, Chang Y, Stavas JM, **Stürmer T**, Lund J. Effectiveness of Initial Transarterial Chemoembolization for Hepatocellular Carcinoma Among Medicare Beneficiaries. *Journal of the National Comprehensive Cancer Network* 2015;13(9):1102-10.
- 191.♣ Bushnell GA, **Stürmer T**, Swanson SA, White A, Azrael D, Pate V, Miller M. Dosing of selective serotonin reuptake inhibitors in children and adults before and after the FDA black-box warning. *Psychiatric Services* 2016 Mar 1;67(3):302-9.
190. Layton JB, Meier CR, Sharpless JL, **Stürmer T**, Jick SS, Brookhart MA. Comparative Safety of Testosterone Dosage Forms. *JAMA Internal Medicine* 2015;175(7):1187-96.
- 189.♣ Wyss R, Ellis AR, Brookhart MA, Jonsson Funk M, Girman CJ, Simpson R, **Stürmer T**. Matching on the disease risk score in comparative effectiveness research of new treatments. *Pharmacoepidemiology and Drug Safety* 2015;24(9):951-61.
188. Sheu YH, Lanteigne A, **Stürmer T**, Pate V, Azrael D, Miller M. SSRI use and risk of fractures among perimenopausal women without mental disorders. *Injury Prevention* doi: 10.1136/injuryprev-2014-041483. [epub ahead of print]
- 187.♣ Mack C, Brookhart MA, Glynn RJ, Meyer AM, Carpenter WR, Sandler RS, **Stürmer T**. Comparative Effectiveness of Oxaliplatin vs. 5-fluorouracil in Older Adults: An Instrumental Variable Analysis. *Epidemiology* 2015;26(5):690-9.
- 186.♣ Raman SR, Marshall SW, Gaynes BN, Haynes K, Naftel J, **Stürmer T**. An observational study of pharmacological treatment in primary care of children with ADHD in the United Kingdom. *Psychiatric Services* 2015;66(6):617-24.
185. Cobran EK, Chen RC, Overman R, Meyer AM, Kuo TM, O'Brien J, **Stürmer T**, Sheets NC, Goldin GH, Penn DC, Godley PA, Carpenter WR. Racial Differences in Diffusion of Intensity-Modulated Radiation Therapy for Localized Prostate Cancer. *Am J Mens Health*. 2015 pii: 1557988314568184. [Epub ahead of print]
184. Lanteigne A, Sheu YH, **Stürmer T**, Pate V, Azrael D, Swanson S, Miller M. Serotonin-Norepinephrine Reuptake Inhibitor and Selective Serotonin Reuptake Inhibitor Use and Risk of Fractures: A new-user cohort study among US adults aged 50 and older. *CNS Drugs* 2015;29(3):245-52.
183. Camelo Castillo W, Boggess K, **Stürmer T**, Brookhart MA, Benjamin DK Jr, Jonsson Funk M. Association of Glyburide compared to insulin with Adverse Pregnancy Outcomes in Women with Gestational Diabetes. *JAMA Pediatrics* 2015;169(5):452-8.
182. Ko E, **Stürmer T**, Hong JL, Camelo Castillo W, Bae-Jump V, Jonsson Funk M. Metformin and the risk of endometrial cancer: A population-based cohort study. *Gynecologic Oncology* 2015;136(2):341-7.

181. Riis AH, Johansen MB, Jacobsen JB, Brookhart MA, **Stürmer T**, Støvring H. Short look-back periods in pharmacoepidemiologic studies of new users of antibiotics and asthma medications introduce severe misclassification. *Pharmacoepidemiology and Drug Safety* 2015;24(5):478-85.
180. Meyer AM, Kuo TM, Chang YK, Carpenter WR, Chen RC, **Stürmer T**. Using Procedure Codes to Define Radiation Toxicity in Administrative Data: The Devil is in the Details. *Medical Care* 2015 DOI: 10.1097/MLR.000000000000262 [Epub ahead of print]
179. Faurot KR, Jonsson Funk M, Pate V, Brookhart MA, Patrick A, Hanson L, Camelo Castillo W, **Stürmer T**. Using Claims Data to Predict Dependency in Activities of Daily Living as a Proxy for Frailty. *Pharmacoepidemiology and Drug Safety* 2015;24(1):59-66.

## 2014

178. Lim S, Stember KG, He W, Bianca PC, Yelibi C, Marquis A, **Stürmer T**, Buse JB, Meigs JB. Electronic medical record cancer incidence over six years comparing new users of glargine with new users of NPH insulin PLOS ONE 2014;9(10):e109433.
177. Camelo Castillo W, Boggess K, **Stürmer T**, Brookhart MA, Benjamin DK Jr, Jonsson Funk M. Trends in glyburide compared with insulin use for gestational diabetes treatment in the United States, 2000-2011. *Obstetrics & Gynecology* 2014;123(6):1177-84.
176. Postmus I, Trompet S, Deshmukh HA, Barnes MR, Li X, Warren HR, Chasman DI, Zhou K, Arsenault BJ, Donnelly LA, Wiggins KL, Avery CL, Griffin P, Feng Q, Taylor KD, Li G, Evans DS, Smith AV, de Keyser CE, Johnson AD, de Craen AJ, Stott DJ, Buckley BM, Ford I, Westendorp RG, Slagboom PE, Sattar N, Munroe PB, Sever P, Poulter N, Stanton A, Shields DC, O'Brien E, Shaw-Hawkins S, Chen YD, Nickerson DA, Smith JD, Dubé MP, Boekholdt SM, Hovingh GK, Kastelein JJ, McKeigue PM, Betteridge J, Neil A, Durrington PN, Doney A, Carr F, Morris A, McCarthy MI, Groop L, Ahlqvist E; Welcome Trust Case Control Consortium, Bis JC, Rice K, Smith NL, Lumley T, Whitsel EA, **Stürmer T**, Boerwinkle E, Ngwa JS, O'Donnell CJ, Vasani RS, Wei WQ, Wilke RA, Liu CT, Sun F, Guo X, Heckbert SR, Post W, Sotoodehnia N, Arnold AM, Stafford JM, Ding J, Herrington DM, Kritchevsky SB, Eiriksdottir G, Launer LJ, Harris TB, Chu AY, Giulianini F, MacFadyen JG, Barratt BJ, Nyberg F, Stricker BH, Uitterlinden AG, Hofman A, Rivadeneira F, Emilsson V, Franco OH, Ridker PM, Gudnason V, Liu Y, Denny JC, Ballantyne CM, Rotter JI, Adrienne Cupples L, Psaty BM, Palmer CN, Tardif JC, Colhoun HM, Hitman G, Krauss RM, Wouter Jukema J, Caulfield MJ. Pharmacogenetic meta-analysis of genome-wide association studies of LDL cholesterol response to statins. *Nature Communications* 2014;5:5068. DOI: 10.1038/ncomms6068
- 175.♣ Gokhale M, Buse JB, Gray C, Pate V, Marquis MA, **Stürmer T**. Dipeptidyl-peptidase-4 inhibitors and pancreatic cancer: a cohort study. *Diabetes, Obesity and Metabolism* 2014;16(12):1247-56.
174. Jensen ET, Daniels JL, **Stürmer T**, Robinson WR, Williams CJ, Vejrup K, Magnus P, Longnecker MP. Hormonal contraceptive use before and after conception in relation to preterm birth and small for gestational age: an observational cohort study. *BJOG* 2014; DOI: 10.1111/1471-0528.13114.
173. Jensen E, Daniels J, **Stürmer T**, Robinson W, Williams C, Vejrup K, Moster D, Juliusson P, Magnus P, Longnecker M. Maternal hormonal contraceptive use and offspring overweight or obesity. *International Journal of Obesity [London]* 2014;38(10):1275-81.



172. Li X, **Stürmer T**, Brookhart MA. Evidence of sample use among new users of statins: implications for pharmacoepidemiology. *Medical Care* 2014;52(9):773-80.
- 171.♣ Wyss R, Ellis AR, Brookhart MA, Girman CJ, Funk MJ, LoCasale R, **Stürmer T**. The Role of Prediction Modeling in Propensity Score Estimation: An Evaluation of Logistic Regression, bCART, and Covariate Balancing Propensity Scores. *American Journal of Epidemiology* 2014;180(6):645-55.
170. Camelo Castillo W, Delaney JAC, **Stürmer T**. The challenges of comparing results between placebo controlled randomized trials and non-experimental new user, active comparator cohort studies: the example of olmesartan.[Commentary] *Pharmacoepidemiology and Drug Safety* 2014;23(4):357-60.
- 169.♣ Wyss R, Ellis AR, Lunt M, Brookhart MA, Glynn RJ, **Stürmer T**. Model misspecification when excluding instrumental variables from PS models in settings where instruments modify the effects of covariates on treatment. *Epidemiologic Methods* 2014;3(1):83–96.
168. Li X, Camelo Castillo W, **Stürmer T**, Pate V, Gray CL, Simpson RJ, Setoguchi S, Hanson LC, Jonsson Funk M. Utilization of combination antihypertensive therapy initiation in older Americans without prevalent cardiovascular disease. *Journal of the American Geriatrics Society* 2014;62(9):1729-35.
167. Hallas J, Christensen R, **Stürmer T**, Pottegard A. Measures of "exposure needed for one additional patient to be harmed" in population-based case-control studies. *Pharmacoepidemiology and Drug Safety* 2014;23(8):868-74.
- 166.♣ Wyss R, Lunt M, Brookhart MA, Glynn RJ, **Stürmer T**. Reducing Bias Amplification in the Presence of Unmeasured Confounding Through Out-of-Sample Estimation Strategies for the Disease Risk Score. *Journal of Causal Inference* 2014;2(2):131-146.
165. Layton JB, Li D, Meier CR, Sharpless J, **Stürmer T**, Jick SS, Brookhart MA. Testosterone Lab Testing and Initiation in the United Kingdom and the United States, 2000-2011. *Journal of Clinical Endocrinology & Metabolism* 2014;99(3):835-42.
164. Crockett SD, Schectman R, **Stürmer T**, Kappelman MD. Topiramate use does not reduce flares of inflammatory bowel disease. *Digestive Diseases and Sciences* 2014;59(7):1535-43.
163. Raghunathan K, Shaw A, Nathanson B, **Stürmer T**, Brookhart MA, Stefan MS, Setoguchi S, Beadles C, Lindenauer PK. Association between the choice of intravenous crystalloid and in-hospital mortality among critically ill adults with sepsis. *Critical Care Medicine* 2014;42:1585–91.
162. **Stürmer T**, Wyss R, Glynn RJ, Brookhart MA. Propensity scores for confounder adjustment when assessing the effects of medical interventions using non-experimental study designs. *Journal of Internal Medicine* 2014;275(6):570-80. PMC-ID 4037382
161. Panozzo CA, Becker-Dreps S, Pate V, Weber DJ, Jonsson Funk M, **Stürmer T**, Brookhart MA. Direct, indirect, total, and overall effectiveness of the rotavirus vaccines for prevention of gastroenteritis hospitalizations in privately-insured U.S. children, 2007-2010. *American Journal of Epidemiology* 2014;179(7):895-909.
160. Miller M, Swanson SA, Azrael D, Pate V, **Stürmer T**. Antidepressant dose, age, and the risk of deliberate self-harm. *JAMA Internal Medicine* 2014;174(6):899-909.
159. Avery CL, Der JS, Whitsel EA, **Stürmer T**. Comparison of study designs used to detect and characterize pharmacogenomic interactions in non-experimental studies: a simulation study. *Pharmacogenetics and Genomics* 2014;24(3):146-55.

- 158.♣ Wyss R, **Stürmer T**. Balancing Automated Procedures for Confounding Control with Background Knowledge [commentary]. *Epidemiology* 2014;25(2):279-81.
157. Girman CJ, Kelkar M, Kou TD, Brodovicz KG, Wyss R, **Stürmer T**. Assessing the Impact of Propensity Score Estimation and Implementation on Covariate Balance and Confounding Control Within and Across Important Subgroups in Comparative Effectiveness Research. *Medical Care* 2014;52:280–287.
156. Miller M, Pate V, Swanson SA, Azrael D, White A, **Stürmer T**. Antidepressant Class, Age, and the Risk of Deliberate Self-Harm: A Propensity Score Matched Cohort Study of SSRI and SNRI Users in the USA. *CNS Drugs* 2014;28(1):79-88.
- 155.♣ Brouwer ES, Napravnik S, Eron JJ, Stalzer B, Floris-Moore M, Simpson RJ, Brookhart MA, **Stürmer T**. Effects of combination antiretroviral therapies on the risk for myocardial infarction among HIV patients. *Epidemiology* 2014;25(3):406-17. doi: 10.1097/EDE.0000000000000041.
154. Robinson WR, Cheng MC, Hoggatt KJ, **Stürmer T**, Siega-Riz AM. Childbearing is not associated with young women's long-term obesity risk. *Obesity (Silver Spring)* 2014;22(4):1126-32.
153. Avery CL, Sitlani CM, Arking DE, Arnett DK, Bis JC, Boerwinkle E, Buckley BM, Ida Chen YD, de Craen AJ, Eijgelsheim M, Enquobahrie D, Evans DS, Ford I, Garcia ME, Gudnason V, Harris TB, Heckbert SR, Hochner H, Hofman A, Hsueh WC, Isaacs A, Jukema JW, Knekt P, Kors JA, Krijthe BP, Kristiansson K, Laaksonen M, Liu Y, Li X, Macfarlane PW, Newton-Cheh C, Nieminen MS, Oostra BA, Peloso GM, Porthan K, Rice K, Rivadeneira FF, Rotter JI, Salomaa V, Sattar N, Siscovick DS, Slagboom PE, Smith AV, Sotoodehnia N, Stott DJ, Stricker BH, **Stürmer T**, Trompet S, Uitterlinden AG, van Duijn C, Westendorp RG, Witteman JC, Whitsel EA, Psaty BM. Drug-gene interactions and the search for missing heritability: a cross-sectional pharmacogenomics study of the QT interval. *Pharmacogenomics* 2014;14(1):6-13.
- 152.♣ Brouwer ES, Napravnik S, Eron JJ, Simpson RJ, Brookhart MA, Stalzer B, Vinikoor M, Moore MF, **Stürmer T**. Validation of Medicaid claims-based diagnosis of myocardial infarction using an HIV clinical cohort. *Medical Care* 2014; doi: 10.1097/MLR.0b013e318287d6fd. PMID: 23604043. [Epub ahead of print]

## 2013

- 151.♣ Le HV, Poole C, Brookhart MA, Schoenbach VJ, Beach KJ, Layton JB, **Stürmer T**. Effects of aggregation of drug and diagnostic codes on the performance of the high-dimensional propensity score algorithm: an empirical example. *BMC Medical Research Methodology* 2013;13:142. DOI: 10.1186/10.1186/1471-2288-13-142
150. Layton JB, Brookhart MA, Jonsson Funk M, Simpson RJ Jr, Pate V, **Stürmer T**, Kshirsagar AV. Acute kidney injury in statin initiators. *Pharmacoepidemiology and Drug Safety* 2013;22(10):1061-70. doi: 10.1002/pds.3500.
149. Brookhart MA, Wyss R, Layton JB, **Stürmer T**. Propensity Score Methods for Confounding Control in Nonexperimental Research. *Circulation: Cardiovascular Quality and Outcomes* 2013;6(5):604-11. doi: 10.1161/CIRCOUTCOMES.113.000359.
- 148.♣ Hong JL, Meier CR, Sandler RS, Jick SS, **Stürmer T**. Risk of colorectal cancer after initiation of orlistat: a matched cohort study. *BMJ* 2013;347:f5039. doi: 10.1136/bmj.f5039

- 2014 Berton H. Kaplan Student Publication Award in recognition of the **best student paper accepted for publication in the year 2013**, Department of Epidemiology, UNC Gillings School of Global Public Health
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5. Sun Y, **Stürmer T**, Günther KP, Brenner H. Reliability and validity of clinical outcome measurements of osteoarthritis of the hip and knee - a review of the literature. *Clinical Rheumatology* 1997; 16:185-98.

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#### *Clinical Communications*

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#### *Letters to the Editor*

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11. Miller M, Swanson S, **Stürmer T**. Antidepressant dose and risk of deliberate self-harm--reply. *JAMA Intern Med.* 2015;175(3):464.
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4. **Stürmer T**, Brenner H, Koenig W, Günther KP. RE: "Systemic inflammation in osteoarthritis – is glycosylation profile of acute phase proteins a more sensitive marker than high sensitivity CRP?" *Annals of the Rheumatic Diseases* 2004; 63:750-1.
3. **Stürmer T**, Brenner H. RE: "Flexible matching strategies to increase power and efficiency to detect and estimate gene-environment interactions in case-control studies". *American Journal of Epidemiology* 2004; 159:1108.
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*Other documents*

1. Hallas J, Stürmer T. Guidelines for Good Pharmacoepidemiology Practice (GPP), 3rd revision. *Pharmacoepidemiology and Drug Safety* 2016;25:2-10.

**Refereed Unpublished Oral Presentations and Abstracts**

*\*Dissertations*

2001

2. **Stürmer T.** Increase in power and efficiency of case-control studies by novel strategies of frequency matching. "Habilitation" (Doctor of Philosophy dissertation equivalent) in Epidemiology, Faculty of Medicine, University of Heidelberg, Germany

1989

1. **Stürmer T.** Epidemiologic follow-up study of the health impact of analgesic abuse in Switzerland: overall and cause-specific mortality 1967 – 1986. MD dissertation, Faculty of Medicine, University of Basel, Switzerland

*\*Abstracts (work not published)*

31. Hong JL, Henderson LM, Jonsson Funk M, Lund JL, Pate V, **Stürmer T.** Differential Use of Screening Mammography in Older Women Initiating Metformin or Sulfonylureas. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S571
30. Zhang HT, McGrath LJ, Wyss R, Ellis AR, **Stürmer T.** Improving Control for Confounding by Frailty When Estimating Influenza Vaccine Effectiveness in Older Adults. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S561
29. Nichols HB, Visvanathan K, Lee VS, Roh JM, Lee JX, **Stürmer T,** Kushi LH. Validation of Endocrine Therapy Indication to Identify Breast Cancer Chemoprevention: A Feasibility Study. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S557
28. Riis AH, Johansen MB, Brookhart MA, **Stürmer T,** Støvring H. The Apparent Effect of Oral Contraceptives on the Risk of Venous Thromboembolism Depends on the Length of the Look-Back Period. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S542
27. Layton JB, Li D, Sharpless JL, **Stürmer T,** Brookhart MA. Patterns of Testosterone Persistence and Switching Among Commercially Insured Men in the United States. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S499
26. Camelo Castillo W, **Stürmer T,** Jonsson Funk M. Informative Censoring Index: Quantifying the Potential for Informative Censoring in As-Treated Analyses. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S393-4
25. Hong JL, Wyss R, **Stürmer T,** Girman CJ. In Balance You Say? How We Assess Baseline Comparability in Comparative Effectiveness Research. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S360
24. D'Arcy ME, **Stürmer T,** Jonsson Funk M, Sandler RS, Baron JA, Virginia P, Meyer AM, Troester MA, Lund JL. Antidepressants (AD) and Colorectal Cancer (CRC). *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S353-4



23. D'Arcy ME, **Stürmer T**, Jonsson Funk M, Sandler RS, Baron JA, Virginia P, Meyer AM, Troester MA, Lund JL. Selective Serotonin Reuptake Inhibitors (SSRIs) and Colorectal Cancer (CRC). *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S353
22. Li X, Chen Y, Chandler J, Girman CJ, **Stürmer T**. Similarities Regarding Diagnostic Workup Utilization in Two Data Systems. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S351
21. Htoo PT, **Stürmer T**, Jonsson Funk M, Pate V, Lund JL. Comparative Effects of Antihypertensive Medications on Colorectal Cancer Risk. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S347
20. Garry EM, Buse JB, Pate V, **Stürmer T**. The Role of Differential Work-up in the Association between Pioglitazone and Bladder Cancer. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S304-5
19. Bushnell GA, Dusetzina SB, Gaynes BN, Compton SN, White AD, **Stürmer T**. Initial Prescription Medication for Children with Anxiety: Concordance with Evidence. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S283-4
18. Brookhart MA, Jonsson Funk M, **Stürmer T**. Finite-sample Performance of Inverse-probability Weighted Median Regression in the Presence of Large Weights. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S218-9
17. Jirón M, Pate V, Hanson LC, Jonsson Funk M, **Stürmer T**. Prevalence and determinants of potentially inappropriate medication prescribing among older US adults according to STOPP criteria. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S105
16. Lund JL, **Stürmer T**, Lash TL, Acquavella J, Støvring H, Maclure M, Laden F, Lo Re V, Werler M, Sacks S. Does the Increasing Specialization of Epidemiologic Societies Ensure the Best Future for Our Profession? [Symposium] *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S45-6
15. Layton JB, Li D, Sharpless JL, Meier CR, Choi BY, **Stürmer T**, Brookhart MA. Testosterone and Acute Cerebro- and Cardiovascular Adverse Events: A Self-controlled Analysis. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S39-40
14. Wyss R, Ellis AR, Brookhart MA, **Stürmer T**. Resampling Methods for Evaluating Disease Risk Scores in Comparative Effectiveness Research. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S23
13. Gokhale MN, Buse JB, Marquis MA, **Stürmer T**. Patterns of Antihyperglycemic Drug Use and Effect on Implementation of a New-User Active Comparator Study. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S8
12. Lund JL, Sanoff HK, **Stürmer T**. Controlling for Frailty in Cancer Comparative Effectiveness Studies of Older Adults. *Pharmacoepidemiol Drug Saf* 2015; 24 (Suppl 1): S2
11. Hong JL, Pate V, Jonsson Funk M, Ko E, **Stürmer T**. Comparison of Validation Studies for the External Control for Confounding by Body Mass Index and Smoking When Assessing the Effects of Metformin vs. Sulfonylureas on Cancer Incidence. *Pharmacoepidemiol Drug Saf* 2013;22:(Suppl. 1):S50
10. LoCasale RJ, Girman CJ, Bortnichak EA, Wilson KA, Wyss R, **Stürmer T**. A Comparison of Covariate Selection Approaches for Propensity Score (PS) Derivation. *Pharmacoepidemiol Drug Saf* 2011; 20: S312

9. Tennis P, Davis K, **Stürmer T**, Brown J, Lanes S. Addressing Challenges in Using Multiple Data Sources To Evaluate Medication Risk Factors for Asthma Mortality in Persistent Asthma. *Pharmacoepidemiol Drug Saf* 2011; 20: S268
8. Liu Z, Poole C, Herring AH, Girman CJ, Carey TS, **Stürmer T**. Estimation of Acute Effects of Severe Hypoglycemia on Subsequent Episodes in Type 1 Diabetes. *Pharmacoepidemiol Drug Saf* 2011; 20: S14
7. Jonsson Funk M, Westreich D, **Stürmer T**, Brookhart MA. Standard Errors & Confidence Limits for Doubly Robust Estimation. *Pharmacoepidemiol Drug Saf* 2011; 20: S1
6. Liu Z, Carey TS, **Stürmer T**. Changes in Insulin Dose in Response to Severe Hypoglycemia in the Diabetes Control and Complication Trial. Abstract submitted for 26th International Conference on Pharmacoepidemiology and Therapeutic Risk management, August 2010, Brighton, UK.
5. Rothman KJ, dal Pan G, Evans S, Stang P, Jones J, **Stürmer T**. The Future of Epidemiology. Symposium. 25th annual meeting of the International Society for Pharmacoepidemiology, Rhode Island, 2009.
4. Perez-Gutthann S, **Stürmer T**, Platt R, Strom BL, Saddier P, Raine J. How Should We Plan and Communicate Interim Results of Pharmacoepidemiology Studies? An ISPE Public Policy Forum. 25th annual meeting of the International Society for Pharmacoepidemiology, Rhode Island, 2009.
3. **Stürmer T**, Poole C. Matching in cohort studies: return of a long lost family member. *American Journal of Epidemiology* 2009; 169(Suppl):S128. Symposium. 42nd annual meeting of the Society for Epidemiologic Research, Anaheim, 2009.
2. Glynn RJ, **Stürmer T**, Mogun H, Schneeweiss S. A cohort study of venous thromboembolism, anticoagulant use, and subsequent cardiovascular disease. *Pharmacoepidemiol Drug Saf* 2008; 17(suppl 1):S123; Oral presentation, 24th International Conference on Pharmacoepidemiology and Therapeutic Risk Management, Copenhagen, Denmark, 2008.
1. Andersen M, Brookhart MA, Glynn RJ, Stovring H, **Stürmer T**. Practical issues in measuring cessation and re-initiation of drug use in databases. *Pharmacoepidemiol Drug Saf* 2008; 17(suppl 1):S27; Oral presentation, 24th International Conference on Pharmacoepidemiology and Therapeutic Risk Management, Copenhagen, Denmark, 2008.

## Other Unrefereed Works

### *Invited oral presentations*

### National

#### 2015

25. The Role of Study Design to Reduce the Potential for Confounding. Addressing Inadequate Information on Important Health Factors. Public Workshop organized by FDA in collaboration with UMD, under M-CERSI grant, Silver Spring, MD

2013

24. Current Landscape of Pharmacoepidemiologic Research. Amgen Observational Research Symposium, Thousand Oaks, CA
23. Using external validation studies to quantify the magnitude of confounding by an unmeasured covariate. Symposium on “Old studies, new questions: maximizing the utility of existing data and minimizing the biases that can result”. Society for Epidemiologic Research, Boston, MA

2012

22. Threats to Validity: Confounding in Rheumatic Disease Research. 2012 American College of Rheumatology Annual Meeting in Washington, DC
21. Design Issues in Nonexperimental Comparative Effectiveness Studies. University of Alabama at Birmingham. Symposium jointly hosted by UAB Division of Preventive Medicine; UAB Center for Outcomes and Effectiveness Research and Education (COERE); UAB Center for Education and Research on Therapeutics (CERTs)
20. Issues and Limitations of Current Design Options for Nonexperimental Comparative Effectiveness Studies. Amgen Observational Research Symposium “Being Successful in the Era of Comparative Effectiveness”, Thousand Oaks, CA
19. Standards and Validity of Observational Studies; academic perspective. GlaxoSmithKline extended leadership team of the Quantitative Sciences Group discussion on “How to improve the quality of observational studies published in journals”. RTP, NC

2011

18. Nonexperimental Comparative Effectiveness Research, Novel Methods. Comparative Effectiveness Research: Methods and Applications. 6th Annual Chapel Hill Drug conference. Chapel Hill, NC
17. Confounding and Propensity Scores. American Pharmacists Association Annual Meeting & Exposition. Seattle, WA

2010

16. The UNC DEcIDE Center. Agency for Healthcare Research and Quality annual meeting. Washington, DC
15. Non-Experimental Comparative Effectiveness Research Using Automated Databases. Epidemiology Symposium “Data linkages in clinical epidemiology: are we being brave or foolhardy?” (Kaufman J, Hernan M), 43<sup>rd</sup> annual meeting of the Society for Epidemiologic Research, June 2010, Seattle, WA
14. Statistical Issues in Epidemiology. Boston Chapter of the American Statistical Association. Boston, MA
13. The Use of Propensity Scores in Etiological Research. Session on Recent Advances in the Study of Healthcare-Related Infectious Disease Epidemiology. 5th Decennial International Conference on Healthcare-Associated Infections co-organized by the Society for Healthcare Epidemiology of America (SHEA), the Centers for Disease Control and Prevention (CDC), the Association for Professionals in Infection Control and

Epidemiology (APIC), and the Infectious Diseases Society of America (IDSA), Atlanta, GA

2009

12. Dealing with confounding and selection bias. Advanced epidemiologic/statistical methods (moderator: Art Sedrakyan). Methodologies for post-approval studies of medical devices. Food and Drug Administration, Silver Spring, MD
11. Propensity Scores in Pharmacoepidemiologic Research. University of Massachusetts Medical School, Worcester, MA

2008

10. Pharmacoepidemiology. GlaxoSmithKline, RTP, NC
9. Control of Unmeasured Confounding in Pharmacoepidemiology. Merck & Co., Inc., West Point, PA
8. Bias Estimation for Propensity Score Calibration. SER Spotlight Session on Exposure Measurement Error. 41st Annual meeting Society for Epidemiologic Research, Chicago, IL

2007

7. Control of unmeasured confounding in pharmacoepidemiology. Department of Epidemiology, School of Public Health, University of North Carolina, Chapel Hill, NC
6. Single imputation to control unmeasured confounding using a validation study. 40th annual meeting, Society for Epidemiologic Research, Boston, MA
5. Propensity Score Calibration with Validation Data. Joint Statistical Meetings of the American Statistical Association, International Biometric Society, Institute of Mathematical Statistics, and Statistical Society of Canada, Salt Lake City, UT

2006

4. Adjustments for Unmeasured Confounders in Pharmacoepidemiology Database Studies using External Information. Symposium of the Agency for Healthcare Research and Quality (AHRQ) on Comparative Effectiveness and Safety: Emerging Methods, Rockville, MD
3. Propensity scores in pharmacoepidemiology. Department of Biostatistics, Harvard School of Public Health, Seminar "Working Group in Statistical Methods in Epidemiology (B. Rosner)", Boston, MA

2005

2. Propensity scores in pharmacoepidemiology. Department of Epidemiology, School of Public Health, University of North Carolina, Chapel Hill, NC

2004

1. Propensity scores in pharmacoepidemiology: increasing use, persisting questions, and new possibilities. Harvard School of Public Health, Boston, MA

## International

### 2015

41. The Role of Study Design to Reduce the Potential for Confounding. London School of Hygiene and Tropical Medicine, London, UK
40. Unmeasured Confounding in Nonexperimental Pharmacoepidemiologic Studies: Design and Analytic Considerations. McGill University, Montreal, Canada

### 2014

39. Control for unmeasured confounding in PE studies: study design and analytic considerations. Satellite Symposium of ICPE. Institute of Clinical Pharmacy and Pharmaceutical Sciences, National Cheng Kung University (NCKU), Tainan, Taiwan

### 2013

38. Advances in Pharmacoepidemiology Research. Keynote, 8<sup>th</sup> Asian Conference on Pharmacoepidemiology, Hong Kong, China
37. Improvement of 1:M Matching Using an Adaptive Algorithm: Proof of Concept. International Society for Pharmacoepidemiology, Montreal, Canada
36. Rationale for and Practical Implementation of Trimming Strategies in Study Design for 2-Cohort Comparisons. Symposium on “Strategies To Enhance Validity in the Design of Comparative Effectiveness Studies”. International Society for Pharmacoepidemiology, Montreal, Canada
35. Joint workshop on “Methodological challenges in epidemiological studies on the effectiveness of drugs – the example of statins” with Centre for Pharmacoepidemiology, Karolinska Institute, and AstraZeneca, Stockholm, Sweden

### 2012

34. Propensity scores for confounder adjustment. 6<sup>th</sup> Nordic Pharmacoepidemiologic Network (NorPEN) meeting, Karolinska Institutet, Stockholm, Sweden

### 2011

33. Methodological challenges in register-based observational studies. Workshop on methodological issues in pharmacoepi research using the Nordic registers. Nordic Pharmacoepidemiologic Network (NorPEN). Centre for Pharmacoepidemiology, Karolinska Institutet, Sweden
32. Keynote (methods): Biases due to frailty in population based studies of medical interventions: outline of the problem and methods to address it. Canadian Association for Population Therapeutics meeting on “Knowledge to Provide Evidence for Health Care

Decision-Makers: Clinical Practice and Research Methodology". Ottawa, Ontario, Canada

2010

31. Why & how to use Propensity Scores? National Institute of Public Health, Oslo, Norway
30. Treatment decisions and propensity scores. World Pharma 2010, Copenhagen, Denmark

2009

29. Propensity Scores in Pharmacoepidemiology. Novartis, Basel, Switzerland
28. Propensity Scores in Pharmacoepidemiology. PMV Forschungsgruppe, University of Cologne, Germany

2008

27. Practical issues in measuring cessation and re-initiation of drug use in databases (discussant). 24th International Conference on Pharmacoepidemiology and Therapeutic Risk Management, Copenhagen, Denmark
26. Propensity Scores in Pharmacoepidemiology. GSF-Institute for Epidemiology, Neuherberg, Germany
25. Colorectal cancer: epidemiology and prevention. University of Ulm, Germany
24. Epidemiology and prevention of colorectal cancer. University of Basel, Switzerland

2007

23. Control of unmeasured confounding in epidemiology. Institute for Social and Preventive Medicine, University of Bern, Switzerland
22. Epidemiology and preventive medicine – the example of nonsteroidal anti-inflammatory drugs and colorectal cancer. Faculty of Medicine, University of Regensburg, Germany

2006

21. Propensity scores in epidemiology. Institute for Social- and Preventive Medicine, University of Basel, Switzerland
20. Propensity scores in epidemiology. Institute for Social- and Preventive Medicine, University of Bern, Switzerland
19. Introduction into pharmacoepidemiology. Bremen Institute for Prevention Research and Social Medicine, University of Bremen, Germany
18. Propensity scores in pharmacoepidemiology. Bremen Institute for Prevention Research and Social Medicine, University of Bremen, Germany
17. Tumor-epidemiology in the Comprehensive Cancer Center Freiburg. Faculty of Medicine, University of Freiburg, Germany

16. Preventive oncology at the German Cancer Research Center and the National Center for Tumor Diseases. German Cancer Research Center and faculty of Medicine, University of Heidelberg, Germany
15. Control of unmeasured confounding. Symposium organized together with Kenneth J. Rothman at the 22nd International Conference on Pharmacoepidemiology & Therapeutic
14. Performance of propensity score calibration – a simulation study. 27th Annual Conference of the International Society for Clinical Biostatistics, Geneva, Switzerland
13. Propensity scores and unmeasured confounding. Danish Society for Pharmacoepidemiology symposium on pharmacoepidemiological methods. Odense, Denmark

#### 2005

12. Risk for colorectal cancer after initiation of regular nonsteroidal antiinflammatory drug use. Institute for Social- and Preventive Medicine, University of Bern, Switzerland
11. Risk for colorectal cancer after initiation of regular nonsteroidal antiinflammatory drug use. Institute for Medical Biometry, Epidemiology and Informatics, University of Mainz, Germany
10. Clinical epidemiology in a comprehensive cancer center. Comprehensive Cancer Center, University of Freiburg, Germany
9. The Heidelberg Longitudinal Study on Risk Factors and Diagnosis of Chronic Disease as basis for interdisciplinary research on prevention. Faculty of Clinical Medicine Mannheim, University of Heidelberg, Germany
8. Propensity Scores in Pharmacoepidemiology. Workshop on “Propensity scores in epidemiology – theory and practice”. Organized by Dirk Taeger and myself (Joint Working Group on Statistical Methods in Epidemiology of the German Epidemiologic Association and German Chapter of the International Biometric Society) at the 12th annual meeting, German Epidemiologic Association, Freiburg, Germany

#### 2004

7. Colorectal cancer: epidemiology and prevention. University of Tirol, Innsbruck, Austria
6. Propensity scores in medical research: increasing use, unanswered questions, and new possibilities. University of Tirol, Innsbruck, Austria
5. Colorectal cancer: epidemiology and prevention. University of Basel, Switzerland
4. Controlling confounding using propensity scores: increasing use, persisting questions, and new venues. University of Freiburg, Germany
3. Correcting effect estimates for unmeasured confounding in cohort studies with validation data using propensity score calibration. Workshop: Advanced methods for survival analysis; statistical methods in epidemiology and medicine, organized by Dirk Taeger and myself, co-sponsored by the working groups on Statistical Methods in Medicine (German Chapter of the International Biometric Society), Statistical Methods in Clinical Research (German Society for Medical Informatics, Biometry and Epidemiology), and Statistical Methods in Epidemiology (German Epidemiologic Association and German Chapter of the International Biometric Society), Halle, Germany

2001

2. Increasing power and efficiency of case-control studies using novel strategies of frequency matching. University of Erlangen-Nuremberg, Germany
1. Novel strategies for frequency matching in case-control studies. University of Bielefeld, Germany

Educational Materials

3. "Insights into different results from different causal contrasts in the presence of effect-measure modification" (2006). This Excel-spreadsheet can be downloaded free of charge from (<http://www.brighamandwomens.org/pharmacoepid>). It allows the direct comparison of results obtained by different novel and conventional analytic techniques for specific parameter constellations (see ref. # 70).
2. "A computer program to estimate power and relative efficiency of flexibly matched case-control studies" (2006). This SAS-macro can be downloaded free of charge from (<http://www.imbe.med.uni-erlangen.de/issan/issan.htm>). It allows the calculation of power and efficiency to estimate main effects of matched case-control studies for specific parameter constellations (see ref. # 59).
1. "Power and relative efficiency to assess multiplicative interactions in flexibly matched case-control studies" (2004). This SAS-macro can be downloaded free of charge from (<http://www.imbe.med.uni-erlangen.de/issan/issan.htm>). It allows the calculation of power and efficiency to estimate interactions (e.g. gene-environment interactions) of matched case-control studies for specific parameter constellations (see ref. # 49).

**TEACHING ACTIVITIES**

**Courses Taught in the Past 3 Years**

*University of North Carolina at Chapel Hill*

<b>Co-Instructor</b> 2016	EPID 799B: Special Topics in Pharmacoepidemiology - Pharmacoepidemiology of Older Adults: Challenges and Opportunities (Jennifer Lund) 14 students
<b>Co-Instructor</b> 2016	EPID 726: Grant writing 6 students
<b>Co-Instructor</b> 2015	EPID 725: Grant writing 6 students
<b>Lead Instructor</b> 2009 – 2015	EPID 765: Pharmacoepidemiology 25 students, 25 hours preparation, 35 contact hours, taught every other year in the spring semester
<b>Lead Instructor</b>	EPID 893: Pharmacoepidemiology Seminar



2008 – 2015	30 students, 5 hours preparation, 35 contact hours, held every semester
<b>Co-Instructor</b>	EPID 799: Advanced pharmacoepidemiologic methods (M Alan Brookhart)
2010 – 2014	15 students, 5 hours preparation, 10 contact hours, taught every other year in the spring semester
<b>Co-Instructor</b>	EPID 690: Problems in epidemiology: epidemiologic research with healthcare databases (M Alan Brookhart)
2011 - 2013	26 students, 10 hours preparation, 5 contact hours, taught every other year in the spring semester
<b>Lecturer</b>	Nonexperimental Comparative Effectiveness Research; CER seminar (HPM 496, Morris Weinberger, Sally Stearns)
2010 – 2013	20 researchers; 4 hours preparation, 2 contact hours
<b>Lecturer</b>	Propensity scores (EPID 718, David Richardson)
2009 – 2014	35 students; 4 hours preparation, 1 contact hour
<b>Co-Instructor</b>	EPID 726: Grant writing (Marilie Gammon)
2012	5 students, 10 hours preparation, 30 contact hours
<b>Consultant</b>	Propensity scores (General Epidemiologic Methods Journal Club, EPID 719, Charles Poole)
2010	35 students; 4 hours preparation, 2 contact hours

*University of Aarhus, Denmark*

<b>Lead Instructor</b>	Pharmacoepidemiology summer school
2011, 2012, 2015	40 students, 40 hours preparation, 25 contact hours

*University of Odense, Denmark*

<b>Instructor</b>	Pharmacoepidemiology course
2008, 2011	25 students, 5 hours preparation, 5 contact hours

*Harvard Medical School*

<b>Conference leader</b>	Clinical Epidemiology and Population Health (AC511.0)
2007 – 2008	Member of the course steering group 150 medical students; 20 hours preparation, 20 contact hours

<b>Conference leader</b>	Principles of Pharmacology for Clinical Investigators
2005 – 2007	Pharmacoepidemiology and Pharmacoeconomics module 50 physicians; 1 hour preparation, 2 contact hours

*Harvard School of Public Health*

<b>Lecturer</b>	Introduction to Clinical Epidemiology (EPI208) literature session
2007	15 students in clinical effectiveness program; 1 hour preparation, 2 contact hours

*University of Heidelberg, Germany*

**Instructor** Pharmacoepidemiology summer school in Heidelberg, Germany  
2010 approx. 30 students, 40 hours preparation, 15 contact hours

*Faculty of Medicine, University of Mainz, Germany*

**Instructor** Pharmacoepidemiology course  
2009 25 students, 5 hours preparation, 5 contact hours

*University of Ulm, Germany*

**Lead Instructor** Pharmacoepidemiology summer school in Ulm, Germany  
2008 24 students, 40 hours preparation, 15 contact hours

*Faculty of Biosciences (Pharmacy), University of Heidelberg, Germany*

**Course Co-Director** Epidemiology  
2005 – 2010 30 – 50 graduate students; 4 hours preparation, 2 contact hours

*Pre-conference courses*

**Instructor** Lessons about Confounding and Selection Bias Taught by the  
2012 New User Design  
International Society for Pharmacoepidemiology Mid-Year  
meeting, Miami, FL

**Course Co-Director** Confounding Control in Healthcare Database Research  
2010 Annual Scientific Sessions of the American College of  
Epidemiology, San Francisco

**Instructor** Update on Propensity Scoring  
2010 26<sup>th</sup> International Conference on Pharmacoepidemiology and  
Therapeutic Risk Management, Brighton, UK

*Webinars*

**Lecturer** "Propensity Score Trimming"  
2012 Agency for Healthcare Research and Quality DEcIDE Methods  
Webinar Series

**Lecturer** "Treatment Effects in the Presence of Unmeasured Confounding:  
2011 Dealing With Observations in the Tails of the Propensity Score  
Distribution"  
International Society for Pharmacoepidemiology Webinar Series  
for student members

**GRADUATE STUDENT SUPERVISION**

**University of North Carolina at Chapel Hill**

Department of Epidemiology, UNC Gillings School of Global Public Health

*Current Advisees*

PhD Students (prior to thesis proposal defense)

Kanecia Zimmermann

Phyo Than Htoo

Elizabeth Garry

MSPH/PhD

Henry Zhang

MPH

*Chair of Doctoral Committee*

14. Greta Bushnell (Pediatric anxiety: pharmacotherapy and psychotherapy utilization and serious adverse outcomes), graduation expected Spring 2017
13. Alan Kinlaw (Antibiotic prescribing in the first year of life and asthma incidence), graduation expected Fall 2016
12. Jennifer Jones (Antihypertensives and fractures among older adults), graduation expected Fall 2016
11. Tracy Kinsey (Initiation of non-steroidal anti-inflammatory drug use and risk for venous thromboembolism in U.S. women), graduation expected Fall 2016
10. Mugdha Gokhale (Oral antidiabetics and cardiovascular outcomes), graduated April 2016
9. Jin-Liern Hong (Breast Cancer Risk after Metformin Initiation in Older Women – the Role of Study Design, Potential Confounding by Body Mass Index, and Differential Detection), graduated March 2015
8. Richard Wyss (Disease Risk Scores for Confounding Control When Evaluating Evolving Drug Therapies), graduated February 2015
7. Christina Mack (Improving the validity of nonexperimental comparative effectiveness research: The impact of calendar time on prescribing of novel chemotherapeutic therapies for stage III colon cancer), graduated May 2013
6. Hoa Van Le (Evaluation of the performance of the high dimensional propensity score adjustment in studies of treatment effects using health care claims data), graduated July 2012
5. Emily Brouwer (Comparative effects of different combination antiretroviral therapies on the risk for myocardial infarction among HIV patients enrolled in Medicaid), graduated June 2012
4. Jennifer Lund (Utilization and Dissemination of Oxaliplatin in Stage II/III Colorectal Cancer), graduated, December 2011
3. Zhiwen Liu (Severe hypoglycemia, risk of recurrent events and weight gain on insulin therapy in patients with type 1 diabetes mellitus), graduated December 2010

*Member of Doctoral Committee*

21. Suzanne Landi (Comparative Effectiveness and Safety of Metformin versus Insulin for Gestational Diabetes: Maternal, Neonatal, and Child Outcomes), chair: Michele Jonsson Funk, graduation expected Spring 2017
20. Xiaojuan Li (Comparative Effectiveness of Intravenous Iron Treatment Regimens in Hemodialysis Patients), chair: M Alan Brookhart, graduation expected Fall 2016
19. Montika Bush (Secondary prevention methods after acute myocardial infarction), chair: M Alan Brookhart, graduation expected Fall 2016
18. Monica D'Arcy (Selective serotonin reuptake inhibitors and the risk of colorectal cancer), chair: Jennifer Lund, graduation expected summer 2016
17. Amanda Seyerle (Pharmacogenomics of ventricular conduction in multi-ethnic populations), chair: Christy Avery, graduated March 2016
16. Mona Cai (Trends in oral anti-diabetic utilization and factors affecting effectiveness in children and young adults), chair: M Alan Brookhart, graduated January 2016
15. Wendy Camelo Castillo (Pharmacological Treatment of Gestational Diabetes and Association with Adverse Maternal and Neonatal Outcomes), chair: Michele Jonsson Funk, graduated May 2013
14. Catherine A. Panozzo (Patterns of rotavirus vaccine uptake, use, and effectiveness in privately-insured US children, 2006-2010), chair: M Alan Brookhart, graduated February 2013
13. Leah Sirkus (Influenza vaccine effectiveness among patients on hemodialysis: methods to control the healthy-user bias), chair: M Alan Brookhart, graduated June 2012
12. Bradley Layton (Acute kidney injury in statin initiators: patterns of initiation and applications in observational drug safety research), chair: M Alan Brookhart, graduated March 2012
11. Emily O'Brien (Community Patterns of Acute Myocardial Infarction Therapy and Survival), chair: Wayne Rosamond, graduated March 2012
10. Adam Goode (Lumbar spine individual radiographic features and osteoarthritis biomarkers), chair: Steve Marshall, graduated November 2011
9. Sudha Raman (Stimulant medication and unintentional injury risk among children with attention deficit hyperactivity disorder in the United Kingdom), chair: Steve Marshall, graduated December 2010
8. Yoonsook Lee (Erythromycin, macrolide antibiotics and prokinetic drugs in relation to infantile hypertrophic pyloric stenosis), chair: Charles Poole, did not complete

*Chair of Master's Committee*

4. Henry Zhang (Improving control for confounding by frailty when estimating influenza vaccine effectiveness in older adults), graduated May 2016
3. Greta Bushnell (Predicting persistence to antidepressant treatment in administrative claims data; Considering the influence of refill delays and prior persistence on other medications), graduated November 2013
2. Diane Reams (Progression from Chronic Kidney Disease to End Stage Renal Disease: Persistent Disparity Between Blacks and Whites, 1988 – 2004), graduated February 2012

1. Christina Mack (Race, oxaliplatin use, and treatment outcomes for Stage III colon cancer among Medicare patients), graduated summer 2010

*Member of Master's Committee*

8. L. Corbin Downey (Association of in utero magnesium exposure and spontaneous intestinal perforations in very low birth weight infants), graduated August 2012
7. Emily Bratton (Comparison and temporal trends of three groups with cryptococcosis: HIV-infected, solid organ transplant, and HIV-negative/non-transplant), graduated
6. Simon Asher (Safety of empirical Acyclovir in uninfected infants), graduated August 2012
5. Lauren Piper (Fluconazole loading dose pharmacokinetics and safety in infants), graduated December 2010
4. Jennifer Lund (Thiazolidinedione use and ulcerative colitis-related flares: an analysis of administrative data), graduated December 2009

UNC Eshelman School of Pharmacy

*Member of Doctoral Committee*

7. Patrick Ryan (Enhancing Drug Safety through Active Surveillance of Observational Healthcare Data), graduated spring 2011

**University of Heidelberg, Germany**

Faculty of Medicine (Graduiertenkolleg 793),

*Chair of Doctoral Committee*

2. Adrian Loerbroks (Determinants of changes in cognitive function in the elderly), graduated magna cum laude, November 2008
1. Desiree Debling (Prevalence and risk factors for impaired cognitive function in the elderly), graduated magna cum laude, November 2005

*Member of Doctoral Committee*

6. Jana Strohmaier (The psychiatric susceptibility gene CACNA1C and its sex-specific relationship with personality traits, resilience factors, and depressive symptoms in the general population), graduated 2011

German Centre for Research on Ageing

*Member of Doctoral Committee*

5. Susanne Lietzau (Antibiotic resistance in children, graduated 2006)
4. Andrea Erb (Prevalence and determinants of antibiotic resistance of E.coli in patients attending general practitioners, graduated cum laude 2003)

**University of Ulm, Germany**

Department of Epidemiology

*Member of Doctoral Committee*

3. Ute Fuchs (Quality of life three years after diagnosis of breast cancer), graduated 2006
2. Annelie Becker (Diagnostic delay in patients with breast cancer), graduated 2005
1. Gregor Schlindwein (Clinical diagnosis of ischemic versus hemorrhagic stroke), graduated 2002

*Member of Master's Committee*

3. Kiliana Suzart-Woischnik (Aspirin use and detection of colorectal cancer), graduated
2. Andrea Erb (Sequelae of chronic medication use in patients with osteoarthritis), graduated
1. Elvira Müller (Comparison of FFQ and DR with respect to the alcohol-HDL cholesterol association), graduated

**MENTORING**

Department of Epidemiology, UNC

*Faculty*

10. Whitney Robinson, PhD, Assistant Professor of Epidemiology (tenure track)
9. Bradley Layton, PhD, Assistant Professor of Epidemiology (research track)
8. Hazel Nichols, PhD, Assistant Professor of Epidemiology (tenure track)
7. Jennifer Lund, PhD, Assistant Professor of Epidemiology (tenure track)
6. Daniel Westreich, PhD Assistant Professor of Epidemiology (tenure track)
5. Karin Yeatts, PhD, Assistant Professor of epidemiology (research track)
4. Michele Jonsson Funk, PhD, Associate Professor of Epidemiology (research track)

*Postdocs*

2. Jin Liern Hong, PhD

**University of Heidelberg, Germany**

*Faculty*

3. Elke Raum, MD, PhD
2. Volker Arndt, MD, MPH, PhD

*Postdocs*

1. Adrian Loerbroks

**University of Ulm, Germany**

*Faculty*

1. Sun-Yi, MD

**CONTRACTS AND GRANTS**

**Total \$29,238,313; PI: \$7,087,324**

**Active**

R56 AG023178 NIA

Stürmer (PI) 10/01/15-02/28/17 \$411,000 1.2 cal months

Propensity scores and preventive drug use in the elderly

Insights into and development of different novel analytic strategies to control for selection and confounding bias in non-experimental research based on propensity scores and validation data.

Role: PI

UL1TR001111-02 NIH

Runge (PI) 09/26/13 – 04/30/18 \$7,324,022 1.8 cal months

UNC Clinical and Translational Science Award: A national consortium of medical research institutions, funded through Clinical and Translational Science Awards, is working together and shares a common vision: to improve the way biomedical research is conducted across the country, reduce the time it takes for laboratory discoveries to become treatments for patients, engage communities in clinical research efforts, and train the next generation of clinical and translational researchers.

Role: Director of Comparative Effectiveness Research Strategic Initiative

R01 HL118255

Jonsson Funk (PI) 5/1/2014–4/30/2018

Methods for Estimating Sex Differences in Safety and Effectiveness of Drugs

This study identifies conditions under which common analytical methods may produce biased estimates of sex-specific effects of cardiovascular pharmacotherapy and develops and validates alternative methods for quantifying sex differences when assessing the safety and effectiveness of treatments

Role: Co-investigator

AstraZeneca

Stürmer (PI) 10/1/14 – 9/30/17 \$367,598

Clinical Trial Generalizability: Estimating Treatment Effect in Real World

Based on individual data from an RCT (JUPITER) and individual data from the general population (CPRD) this project assesses the implementation of estimating treatment effects in trial populations that are reweighted to various real world target populations

Role: PI

R01 CA174453

Reeve (PI) 09/21/12-07/31/16

PROMIS validation in prospective population-based prostate cancer research study

This study will evaluate the measurement properties of the PROMIS measures using item response theory models and other psychometric methods.

Role: Co-investigator

GlaxoSmithKline, Merck Inc., UCB BioSciences

Stürmer (Director) 2013-Present \$600,000

Center for Pharmacoepidemiology

The Center provides unrestricted support for students, postdocs, and faculty affiliated with the pharmacoepidemiology program

Role: Director

GlaxoSmithKline

N/A 2002-Present \$3,335,000

Center of Excellence in Pharmacoepidemiology and Public Health  
The Center provides unrestricted support for students, postdocs, and faculty affiliated with the pharmacoepidemiology program  
Role: Director since 2008

**Pending**

R01 for PA-16-160 NIA (to be submitted October 5, 2016)  
Stürmer (PI) 04/01/17-03/31/21 \$1,611,909 1.2 cal months  
Propensity scores and preventive drug use in the elderly  
Insights into and development of different novel analytic strategies to control for selection and confounding bias in non-experimental research based on propensity scores and validation data.  
Role: PI

**Completed** (\$ amounts are approximate assuming 1 € = 1.2 US\$)

R01 AG023178 NIA  
Stürmer (PI) 04/01/12-03/31/16 \$997,101 1.2 cal months  
Propensity scores and preventive drug use in the elderly  
Insights into and development of different novel analytic strategies to control for selection and confounding bias in non-experimental research based on propensity scores and validation data.  
Role: PI

EP09001.037 Merck and Co., Inc.  
Stürmer (PI) 09/30/09-01/30/15 \$607,413 1.2 cal months  
Evaluation of design options for pharmacoepidemiologic cohort studies addressing multiple outcomes  
Evaluate different analytic methods when conducting pharmacoepidemiology comparison studies for single and multiple health outcomes of interest.  
Role: PI

IP2PI000075 PCORI Pilot Project  
Stürmer (PI) 10/01/12-12/31/14 \$482,881 0.6 cal months  
Methods to increase validity of comparative effectiveness research in the elderly  
To address confounding by indication, selection bias due to non-persistence, heterogeneity of treatment effects, and mortality as a competing risk when assessing the comparative effectiveness of post myocardial infarction treatments with respect to the risk for re-infarction.  
Role: PI

HHSN268201100012C  
Stearns (PI) 11/15/10-11/14/14  
Cardiovascular outcomes research center for atherosclerosis risk in communities  
The aims of this study are to conduct comparative effectiveness research to determine the relative effectiveness of different interventions and strategies for the diagnosis, prevention, and treatment of heart failure and develop protocols for the evaluation of medical care for heart failure risk factors and heart failure.  
Role: Co-investigator

AHRQ HHS290200500401  
Stürmer (PI) 08/25/08-07/14/13 \$1,031,721 1.2 cal months  
Developing evidence to inform decisions about effectiveness (DEcIDE)  
UNC DEcIDE Centers 1 and 2 (master contracts): Effectiveness research to address important knowledge gaps confronting decision makers addressing knowledge gaps in the treatment of depression.



Role: PI

AHRQ HHS29020100014

Brookhart (PI) 09/27/12-07/24/14 \$1,112,042 0.72 cal months

Developing and evaluating methods for record linkage and reducing bias in patient registries

This study will strengthen observational studies that use linked registry data by developing and testing new methods to reduce confounding, improving generalizability in studies that use registries linked to clinical data, and developing a method to improve instrumental variable analysis in registries.

Role: Master Task Order PI/Task Co-investigator

R01 AG042845 NIA

Brookhart (PI) 09/01/12-08/31/14 \$456,000 0.36 cal months

A retrospective cohort study of the safety of testosterone therapy in older men

This study will assess the patterns of testosterone initiation in older men, estimate the risk of adverse events in initiators of testosterone therapy (including in vulnerable subgroups), assess the transient risk of acute adverse events, and determine the comparative safety of testosterone delivery mechanisms.

Role: Co-Investigator

550KR31220

Stürmer (PI) 08/01/12-07/31/13 \$50,000 0.48 cal months

Analysis of the relationship between the use of incretin-based therapies and cancer incidence

This study will investigate the effects of incretin-based anti-hyperglycemic therapies and comparator anti-hyperglycemic medications on diagnostic testing and pancreatic cancer in the Medicare population.

Role: PI

PO#3100063817 Sanofi-Aventis

Zhao (PI) 07/01/09-06/30/13 \$752,913 2.4 cal months

Risks of cancers in relation to insulin therapy in people with diabetes

Evaluate the effect of different insulin formulations on the risk for cancers in patients with diabetes.

Role: Co-Investigator

R01HS018731

Napravnik (PI) 04/01/10-03/31/13 \$343,084 0.6 cal months

Comparative safety of antiretrovirals among HIV infected patients: minimizing coronary heart disease outcomes

This study links cohort data with Medicaid data to validate myocardial infarction and uses claims data to assess the association between antiretrovirals and myocardial infarction.

Role: Co-Investigator

AHRQ HHSAA2900200500401

Brookhart (PI) 07/15/10-07/15/13 \$2,836,647 0.24 cal months

Comparative effectiveness of IV iron formulations in end-stage renal disease

The major goal of this project is to study the safety and effectiveness of iron sucrose versus sodium ferric gluconate in dialysis patients.

Role: Master Task Order PI/Task Co-investigator

NIMH: R01-MM5712

Miller (PI) 07/01/10-6/30/13 \$306,150 (UNC subcontract) 1.2 cal months

Suicide and unintentional injury among older Americans on psychotropics

This study assessed the magnitude of the effect of psychotropics on suicide risk in the population.

Role: Co-Investigator

R01HL103612

Whitsel (PI) 08/01/11-05/31/13 \$69,712 (UNC subcontract) 0.48 cal months

Prospective meta-analysis of drug-gene interactions: CHARGE GWAS Consortium

We propose a study of genetic vulnerability to pharmacologically prolonged ventricular repolarization, reduced glomerular filtration, and impaired cognitive function.

Role: Co-Investigator

FDA HHSF2232010000024C

Stürmer (PI) 10/01/12-12/31/14 \$50,000 0.96 cal months

Advancing the specialized methodological expertise for medical device epidemiologists

This project will assess the level of training in advanced epidemiologic methods of medical device epidemiologists at the FDA. Following assessment, prioritized training topics will be developed and modules will be presented.

Role: PI

AHRQ HHS2902010000141

Stürmer (PI) 07/23/10 – 07/24/12 \$9,765 0.12 cal months

Developing Evidence to Inform Decisions about Effectiveness Research Network-2(DECIDE-2)

Specific Aims: The Agency for Healthcare Research and Quality (AHRQ) requests general program and administrative support for the Developing Evidence to Inform Decisions about Effectiveness-2 (DECIDE-2) centers. The purpose of these activities is to discuss, train, educate, and communicate about the DECIDE-2 program, including findings from studies, new research methods, and administrative actions.

Role: PI

Gillings Innovation Laboratory (GIL) Award: GIL 200811.0010

Stürmer (PI) 8/1/2009-7/31/2011 \$250,000

Pharmacoepidemiology Gillings Innovation Lab (PEGIL) for the Population-Based Evaluation of Drug Benefits and Harms in Older Adults

This competitive award from the UNC Gillings School of Global Public Health uses national data available through Medicare Part D drug claims (introduced in 2006) to identify drug use and its benefits and harms to older adults using innovative pharmacoepidemiological methodologies.

NIA: R01-AG023178

Stürmer (PI) 4/1/2008-9/30/2011 \$1,024,845

Propensity Scores and Preventive Drug Use in the Elderly

Competing continuation of our study of the opportunities and challenges of propensity scores to validly assess the preventive effects of medication use in older patients. Focus on several unresolved new and distinct topics regarding the use of validation studies to adjust for confounding unmeasured in the main study and PSs.

Role: PI

NIA: R01-AG018833

Glynn (PI) 06/01/08-03/31/10 \$20,419 (UNC subcontract)

Medication Use, Co-morbidity and Outcomes in Aging Populations

The project will address possibilities to quantify unmeasured confounding by evaluating the time course of apparent mortality risk reduction associated with preventive drug use after stopping of the corresponding drug under the assumption that unmeasured confounding will be strongest right after stopping and then will gradually level off as those who were close to death when stopping have died and therefore are not part of the at risk group anymore.

Role: Co-investigator

AHRQ: HHSA290200500401

Murray (PI) 8/25/08-5/14/10 \$360,000

Developing Evidence to Inform Decisions about Effectiveness (DEcIDE)

Effectiveness research to address important knowledge gaps confronting decision makers addressing knowledge gaps in the treatment of depression.

Role: Co-PI

Swiss National Science Foundation

N/A 2007-2011

No salary support

This funding is to run a randomized trial on the role of vitamin D in the secondary prevention of knee osteoarthritis.

Role: Co-Investigator

German Research Foundation: Graduiertenkolleg 793 (3<sup>rd</sup> round)

Becker (PI) 07/01/08-06/30/11 \$1,260,000 No salary support

This funding is provided to a group of epidemiologists to allow teaching and conduct of research projects for 15 doctoral students in epidemiology. The specific project assessed the impact of psychiatric susceptibility genes on personality traits in the general population.

Role: Co-Investigator

NIA: R01 AG023178

Stürmer (PI) 6/15/05-11/30/07 \$920,000

Propensity Scores and Preventive Drug Use in the Elderly

This project allowed us to gain important insights and develop extensions of different novel analytic strategies to control for selection and confounding bias in non-experimental research.

Role: PI

GlaxoSmithKline

Avorn (PI) 4/1/03-12/31/07 \$2,400,000

Observational Cohort Study of Lotronex

Epidemiology Research Agreement to study the treatment of irritable bowel syndrome and characteristics of patients who receive drugs for this problem including Lotronex.

Role: Co-Investigator

German Research Foundation: Graduiertenkolleg 793 (2nd round)

Becker (PI) 07/01/05-06/30/08 \$1,200,000

This funding is provided to a group of epidemiologists to allow teaching and conduct of research projects for 15 doctoral students in epidemiology. The doctoral student of Dr. Stürmer is assessing changes in cognitive function in an ongoing cohort study using a telephone interview.

Role: Co-Investigator and PI of specific project doctoral student: Adrian Loerbroks

German Research Foundation: STU 235/10-2 and HE 2443/8-1

Stürmer (PI) 7/1/05-6/30/06 \$90,000

Pilot project: DNA-extraction from 4000 mouthwash samples of the Heidelberg Cohort Study on Psychology and Chronic Disease

This grant allowed us to extract DNA from mouthwash samples in an ongoing cohort study and prepare the DNA for long-term storage for later nested case-control analyses of chronic diseases during a 20 year follow-up.

Role: PI

German Research Foundation: STU 235/9-1

Stürmer (PI) 4/1/03-3/31/05 \$75,000

Research stipend: Value of Propensity Scores in Assessing Pharmacoprevention in the Elderly.  
This grant would have funded my stay in Boston for 2 years but could not be used towards my salary at Brigham and Women's Hospital because of the stipend regulations.  
Role: PI

NIH/NIDA: R01DA/AR15507

Solomon (PI) 9/1/02-8/31/05 \$650,000

Pain Medication Use & Risk Factors for Opioid Dependence

This study examines chronic narcotic use in arthritis patients who receive drug benefits through the State of Pennsylvania. We will examine the factors associated with possibly problematic chronic opioid use and determine the rates and predictors of selected complications in taking chronic opioids.

Role: Co-investigator

German Research Foundation: Graduiertenkolleg 793 (1st round)

Becker (PI) 07/01/02-06/30/05 \$1,140,000

Epidemiology of communicable and chronic, non-communicable diseases and their interrelationship

This funding is provided to a group of epidemiologists to allow teaching and conduct of research projects for 15 doctoral students in epidemiology. The doctoral student of Dr. Stürmer is assessing cognitive function in an ongoing cohort study using a telephone interview.

Role: Co-Investigator and PI of specific project doctoral student: Desiree Debling

German Research Foundation: BR 1704/6-1 & CH 117/1-1

Brenner (PI) 10/01/02-09/30/04 \$415,000

Magnitude and Duration of Risk Reduction for Colorectal Cancer after Endoscopy

This is a large (600 cases and 600 controls) case-control study to assess risk factors for colorectal cancer with specific focus on screening examinations, including endoscopy. Specific aims include the association between use of non-steroidal anti-inflammatory drugs, screening behavior and risk for colorectal cancer.

Role: Co-investigator

Foundation Orthopaedic University Clinic Heidelberg: F.02-0008

Brenner (PI) 02/01/02-01/31/04 \$85,000

HSCRIP in Patients with Acute and Chronic Back Pain

The aim of this project is to assess the association between pain and high sensitivity C-reactive protein in orthopedic patients using repeated measurements and taking into account known and suspected long-term and short-term determinants of subclinical systemic inflammatory response.

Role: Co-PI

German Research Foundation: AM 37/19-1

Amelang (PI) 01/01/02-12/31/03 \$250,000

Heidelberg Cohort Study on Diagnosis and Prognosis of Chronic Diseases

This is an interdisciplinary cohort study on the role of psychological and environmental factors and their interaction with respect to risk for cardiovascular disease and cancer.

Role: Co-PI

Bertelsmann Foundation

Puhl (PI) 08/01/99-07/31/05 \$1,800,000

European collaborative database of cost and practice pattern of total hip replacement (EUROHIP)

The aim of this project is to compare different aspects of the practice of total hip replacement due to advanced osteoarthritis in different European countries. Dr. Stürmer is the epidemiologist in the team of project directors.

Role: Co-investigator

German Cancer Aid

Brenner (PI) 1996 – 1998 \$370,000

Diagnostic Delay in Patients with Cancer. Population-based recruitment of patients newly diagnosed with colorectal, breast, and stomach cancer in collaboration with the Saarland Cancer Registry.

Role: Co-investigator

Swiss National Science Foundation: 823B-33287

Stürmer (PI) 9/1/92-8/31/94 \$120,000

Competitive 2-year stipend to study epidemiology at the Harvard School of Public Health and for a Research Fellowship at the Division of Preventive Medicine, Brigham and Women's Hospital.

Role: PI

## **SERVICE**

### **University of North Carolina at Chapel Hill**

2014 – Chair, Admissions Committee, Department of Epidemiology, UNC Gillings School of Global Public Health

2011 – 14 Member, Appointment and Promotions Committee, UNC Gillings School of Global Public Health

2009 – Member, UNC Lineberger Comprehensive Cancer Center Data-Specimen Governance Committee

2008 – Member, Admissions Committee, Department of Epidemiology, UNC Gillings School of Global Public Health

2008 – 09 Member, UNC Health Informatics degree steering and planning committee

### **Professional and Public Service**

2014 – 17 Member, Drug Safety and Risk Management Advisory Committee, Food and Drug Administration, Washington

2011 Ad hoc member, Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section, National Institutes of Health, Washington

2010 Co-chair of the International Society for Pharmacoepidemiology mid-year meeting in Raleigh, NC

2009 – 12 Chair, Public Policy and Ethics committee of the International Society for Pharmacoepidemiology

2009 Public Policy and Ethics committee of the International Society for Pharmacoepidemiology: preparation of the society's comments on the 2009 "ENCePP Code of Conduct (Doc. Ref. EMEA/489873/2008)" Draft for Public Consultation

- 2009 Ad hoc member, special emphasis panel, Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section, National Institute on Aging, National Institutes of Health Program Project (P01) grant application submitted by the Medical University of South Carolina on behalf of Dr. Barbara C. Tilley, "Perceived Discrimination and the Health of Minority Elders." (June 22, 2009)
- 2009 Ad hoc member, Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section, National Institute on Aging, National Institutes of Health, Washington (June 4)
- 2009 Public Policy and Ethics committee of the International Society for Pharmacoepidemiology: preparation of the society's comments on the 2008 CMS document "Possible Medicare Part D public use and supplemental characteristics files"
- 2009 Invited reviewer for the Netherlands ZonMw's Health Technology Assessment (HTA) methodology Programme "Evaluation of expensive drugs for patients with a poor prognosis: balancing risk of bias and required sample sizes" (reg.nr. 80-82500-98-9218)
- 2008 Ad hoc member, Council ZAG1 ZIJ-9 O3: review of Program Project Grant (PPG) application "Perceived Discrimination and the Health of Minority Elders", National Institute on Aging at the National Institutes of Health (August 1)
- 2008 Ad hoc member, Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section, National Institutes of Health, Washington (June 16 and 17)
- 2008 Ad hoc member, special emphasis panel, Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section, National Institutes of Health, teleconference (May 15)
- 2007 Representing the International Society for Pharmacoepidemiology at the XIXth Session of the General Assembly of Council for International Organizations of Medical Sciences (CIOMS) established jointly by WHO and UNESCO in Geneva (December 4)
- 2007 Co-Chair and Chair-Elect, Public Policy and Ethics Committee of the International Society for Pharmacoepidemiology
- 2007 Revision of the Council for International Organizations of Medical Sciences (CIOMS) 1991 International Guidelines for Ethical Review of Epidemiological Studies. Invitation to represent the International Society for Pharmacoepidemiology in Geneva, Switzerland (June 4 – 6)
- 2006 Public Policy and Ethics committee of the International Society for Pharmacoepidemiology: preparation of the society's comments on the 2006 CIOMS draft Special Ethical Considerations for Epidemiologic Research
- 2005 Public Policy and Ethics committee of the International Society for Pharmacoepidemiology: preparation of the society's comments on the March 2005 draft of the revision of the 1991 CIOMS International Guidelines for Ethical Review of Epidemiologic Studies

*Editorial boards*

- 2014 – Editor, Pharmacoepidemiology Section, Current Epidemiology Reports

- 2013 – Member, Editorial Board, Epidemiology
- 2011 – Member, Editorial Board, Comparative Effectiveness Research
- 2010 – Member, Editorial Board, Pharmacoepidemiology and Drug Safety
- 2009 – Associate Editor, American Journal of Epidemiology

*Invited manuscript reviews*

Epidemiology, Statistics, and Public Health

- 2009 – Value in Health
- 2007 – Pharmacoepidemiology and Drug Safety
- 2007 – Annals of Epidemiology
- 2006 – Emerging Themes in Epidemiology
- 2005 – Statistics in Medicine
- 2005 – Health Policy
- 2005 – Paediatric and Perinatal Epidemiology
- 2004 – Epidemiology
- 2003 – American Journal of Preventive Medicine
- 2003 – Journal of Clinical Epidemiology
- 2002 – American Journal of Epidemiology
- 2001 – Sozial- und Präventivmedizin
- 2000 – International Journal of Epidemiology

Others

- 2009 – Environmental Health Perspectives
- 2009 – Annals of Oncology
- 2009 – JAMA
- 2008 – Circulation
- 2007 – Journal of Pharmacy and Pharmacology
- 2007 – Journal of Psychosomatic Research
- 2007 – Journal of Medical Economics
- 2007 – Computational Statistics and Data Analysis
- 2007 – BMC Infectious Diseases
- 2007 – PLoS Medicine
- 2007 – BMC Medical Research Methodology
- 2006 – Emerging Themes in Epidemiology
- 2006 – Digestive and Liver Disease
- 2006 – Seminars in Arthritis and Rheumatism
- 2005 – British Medical Journal
- 2005 – Statistics in Medicine
- 2004 – Annals of the Rheumatic Diseases
- 2004 – European Journal of Clinical Investigation
- 2004 – Methods of Information in Medicine
- 2004 – Scandinavian Journal of Rheumatology
- 2003 – American Journal of Kidney Disease
- 2003 – Gut
- 2003 – Maturitas
- 2002 – Age and Ageing
- 2002 – Drug Safety
- 2001 – International Journal of Cancer

*Invited Abstract Reviews*

- 2004 – Annual Scientific Meeting of the International Society for Pharmacoepidemiology
- 2006 – 2010 Annual Scientific Meeting of the Society for Epidemiologic Research
- 2003 – 2006 Annual Scientific Meeting of the German Society for Epidemiology

*Professional Societies*

- 2006 – International Society for Pharmacoepidemiology Fellow
- 2006 – International Society for Clinical Biostatistics Member
- 2004 – American College of Epidemiology Fellow
- 1998 – German Society for Drug Utilization and Pharmacoepidemiology Member
- 1996 – German Association of Epidemiology Member
- 1996 – German Society for Medical Informatics, Biometry and Epidemiology Member
- 1996 – Society for Epidemiologic Research Member
- 1996 – International Society for Pharmacoepidemiology Member
- 1995 – German Society of Medicine Member

*Professional educational leadership roles*

- 2015 Core Scientific Program Committee for 31<sup>st</sup> International Conference on Pharmacoepidemiology, Boston, USA
- 2014 Core Scientific Program Committee for 30<sup>th</sup> International Conference on Pharmacoepidemiology, Taipei, Taiwan
- 2014 Core Scientific Program Committee for International Society for Pharmacoepidemiology Mid-Year Meeting, Rotterdam, Netherlands
- 2013 Core Scientific Program Committee for 29<sup>th</sup> International Conference on Pharmacoepidemiology, Montreal, Canada
- 2012 Core Scientific Program Committee for 28<sup>th</sup> International Conference on Pharmacoepidemiology, Barcelona, Spain
- 2009 Invited member, Comparative Effectiveness Research Curriculum Panel Meeting, PhRMA Foundation (consulting fee to be paid to UNC as unrestricted grant).
- 2009 – 12 Chair, Public Policy and Ethics Committee of the International Society for Pharmacoepidemiology. As chair I take the lead in shaping the society's responses to increasing public awareness of the important role for pharmacoepidemiology in safeguarding public health.
- 2009 Invited member, expert panel to discuss research issues related to the study of osteoporosis medications (consulting fee paid to UNC as unrestricted grant)
- 2007 – Member, GlaxoSmithKline Asthma Epidemiology Methods Advisory Board (consulting fee paid to Brigham and Women's Hospital as unrestricted grant)
- 2007 – Co-Chair and Chair-Elect, Public Policy and Ethics Committee of the International Society for Pharmacoepidemiology.
- 2007 – Representing the International Society for Pharmacoepidemiology in the Joint Policy Committee representing 13 national and international epidemiologic associations



- 2006 – Fellow of the International Society for Pharmacoepidemiology. Based on the recognition of my previous contributions to the Society I will expand my active involvement in this society.
- 2006 – Scientific program committee, Society for Epidemiologic Research: I see this involvement in the grading of abstracts as a first step into the scientific committee of this highest ranked epidemiologic meeting.
- 2005 – Active member of the Public Policy and Ethics Committee as well as the Strategic Planning Committee of the International Society for Pharmacoepidemiology. I took the lead in preparing several ISPE comments on CIOMS International Guidelines for Ethical Review of Epidemiologic Studies.
- 2004 – Scientific program committee, International Conference on Pharmacoepidemiology: I am actively involved in the grading and final selection of abstracts for the methods sessions of the annual meetings. Due to the increasing interest in propensity scores we were able to have a separate methods session on this topic since 2005.
- 2003 – 04 Scientific program committee, German Congress of Epidemiology: My role included chairing sessions on epidemiologic methods and pharmacoepidemiology at the annual meetings.