

# Elizabeth Anne Sigworth **Westerberg**



## EDUCATION

2022  
|  
2016

### **Vanderbilt University**

Ph.D. Biostatistics (anticipated Nov. 2022)

📍 Nashville, TN, USA

2016  
|  
2012

### **Saint Olaf College**

B.A. Mathematics, concentration Statistics

📍 Northfield, MN, USA



## EXPERIENCE

2022  
|  
2016

### **Biostatistics Ph.D. Candidate**

Dept. Biostatistics, Vanderbilt Univ.

📍 Nashville, TN, USA

- Developed Bayesian meta-analytic method guiding medication switching, focused on chemotherapy
- Extensive experience with survival analysis, particularly time-dependent coefficient effects
- Completed coursework in mathematics, probability theory, computing (R and Python), and statistical modeling
- Served as teaching assistant for Regression Analysis, Survival Analysis, and Advanced Probability courses

2022  
|  
2020

### **Medical Economics Analyst**

Wayspring (formerly axialHealthcare)

📍 Nashville, TN, USA

- Performed savings analyses for clients with sensitive data (medical claims and member demographics)
- Collaborated across departments, authored executive reports, and presented in client-facing meetings
- Utilized time-series trend forecasting, risk-adjustment, longitudinal analysis, and propensity-score designs in reporting
- Coded automated in-house implementation of risk adjustment methodology in R and SQL
- Began as intern in June 2018, with responsibilities shifted to part-time analyst level in May 2020

2022  
|  
2018

### **Graduate Research Assistant**

Dept. Biomedical Informatics, Vanderbilt Univ.

📍 Nashville, TN, USA

- Focused on oncology data using clinical trial data, electronic health records, and genetic data
- Performed meta- and network analyses in R on clinical trial publishing and co-authorship trends over time
- Collaborated with clinicians for analyses, manuscript publication, and conference presentations
- Dedicated effort towards multisite NIH grant [1U24CA194215](#)

2021  
|  
2020

### **Neuroscience Collaborator**

Vanderbilt Brain Institute

📍 Nashville, TN, USA

- Devised statistical modeling strategies for cognitive neurophysiological datasets via Bayesian methods
- Coauthored high impact manuscript in multidisciplinary journal (see PNAS 2021 below)
- Provided ongoing statistical consultation and education to groups at the Vanderbilt Brain Institute



## PERSONAL INFO

✉ [elizabeth@westerberg.science](mailto:elizabeth@westerberg.science)

🆔 [orcid.org/0000-0002-0865-0265](https://orcid.org/0000-0002-0865-0265)

👤 Family status: married (née Sigworth)

🌐 Nationality: American

🎂 Date of birth: 19-09-1993

## SKILLS

### Programming

R (dplyr, ggplot2, RStan, JAGS, etc.),  
Python (numpy, pandas, scikit-learn), SQL,  
Stata, Beamer, SLURM, bash, Markdown,  
LaTeX

### Statistical Analysis

Bayesian analyses, descriptive statistics,  
EHRs, hypothesis testing, longitudinal  
analyses, meta-analyses, network  
analyses, regression modeling strategies,  
survival analyses, simulation studies

### Data Tools

RMarkdown (reproducible reporting),  
Tableau (interactive dashboards), Jupyter,  
Excel

### Development Tools

GitHub, RStudio Server Pro, JIRA,  
Confluence

### Data Platforms

Exasol, Google BigQuery, PostgreSQL,  
Redshift

*Last updated: 29 August 2022*

2021  
|  
2016

## Graduate Student Association Officer

Dept. Biostatistics, Vanderbilt Univ.

📍 Nashville, TN, USA

- Organized trainee events, invited guest speakers, and liaised with faculty and staff on behalf of students
- Acted as Secretary from August 2018 - May 2019 then Vice President August 2019 - May 2021



## PUBLICATIONS

2022

### Building a dose toxo-equivalence model from a Bayesian meta-analysis of published clinical trials

Annals of Applied Statistics (revision under review)

Sigworth, E.A., Rubinstein, S.M., Warner, J.L., Chen, Y., and Chen, Q.

2022

### Assessment of a naloxone coprescribing alert for patients at risk of opioid overdose: a quality improvement project. [🔗](#)

Anesthesia & Analgesia (2022): 10-1213.

Nelson, S.D., McCoy, A.B., Rector, H., Teare, A.J., Barrett, T.W., Sigworth, E.A., et al.

2022

### Development of a bayesian toxo-equivalence model between docetaxel and paclitaxel. [🔗](#)

iScience 25, no. 4 (2022): 104045.

Sigworth, E.A., Rubinstein, S.M., Chaugai, S., Rivera, D.R., Walker, P.D., Chen, Q., and Warner, J.L.

2021

### Pop-out search instigates beta-gated feature selectivity enhancement across V4 layers. [🔗](#)

Proceedings of the National Academy of Sciences 118, no. 50 (2021).

Westerberg, J.A., Sigworth, E.A., Schall, J.D., and Maier, A.

2021

### Imprecision and preferences in interpretation of verbal probabilities in health: a systematic review. [🔗](#)

Journal of General Internal Medicine (2021): 1-10.

Andreadis, K., Chan, E., Park, M., Benda, N.C., Sharma, M.M., Demetres, M., Delgado, D., Sigworth, E.A., et al.

2020

### Seven decades of chemotherapy clinical trials: a pan-cancer social network analysis. [🔗](#)

Scientific reports 10, no. 1 (2020): 1-13.

Li, X., Sigworth, E.A., Wu, A.H., Behrens, J., Etemad, S.A., et al.

2019

### Indication of measures of uncertainty for statistical significance in abstracts of published oncology trials: A systematic review and meta-analysis. [🔗](#)

JAMA Network Open 2, no. 12 (2019): e1917530-e1917530.

Rubinstein, S.M., Sigworth, E.A., Etemad, S., Martin, R.L., Chen, Q. and Warner, J.L.



## INVITED TALKS AND SELECTED ABSTRACTS

2022

### Building a dose toxo-equivalence model from a Bayesian meta-analysis of published clinical trials

2022 Eastern North American Region - invited talk

Sigworth, E.A., Rubinstein, S.M., Warner, J.L., Chen, Y., and Chen, Q.

2019

### Real world investigation of hypermagnesemia in the setting of platinum exposure.

2019 ITCR Annual Meeting - poster

Sigworth, E.A., Niu, X., Chen, Q., Warner, J.L., Wuichet, K., Chaugai, S., and Dai, Q.

2018

### A simultaneous PK/PD model for muscle relaxant using muscle twitch counts.

2018 Women in Statistics and Data Science - invited talk

Sigworth, E.A. and Shotwell, M.

2018

### A simultaneous PK/PD model for muscle relaxant using muscle twitch counts.

2018 Joint Statistical Meetings - poster

Sigworth, E.A. and Shotwell, M.