

# Aaron Del Re, PhD

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## Professional Summary

PhD Biostatistician with over 15 years of experience building predictive models, automated reporting pipelines, and interactive data applications for behavioral and health data. Strong focus on Hierarchical Linear/Mixed-Effects Models (Longitudinal), N-of-1 methodology, and software engineering. I specialize in turning raw patient data into scalable clinical dashboards and empirical predictive engines for B2B SaaS.

## Technical Skills

- **Statistical Modeling:** Hierarchical Linear Models/Mixed-Effects Models (Longitudinal), Meta-Analysis (Multilevel, Network, Random Effects), N-of-1 Trial Design.
- **Study Design & Causal Inference:** Propensity Score Matching, Power Analysis, Simulation Studies.
- **Programming & Software Engineering:** R (Expert), Python, SQL, JavaScript, Web App Development (PWA), Synthetic Data Generation.
- **Reporting & Visualization:** Quarto, Shiny, HTML/CSS, Git/GitHub, ggplot2.
- **Psychometrics:** CFA/EFA, Path Analysis, Scale Development.

## Software & Application Development

- **Empirical Predictive Engines:** Architected decoupled statistical dashboards executing Longitudinal Linear Mixed Models (LLMM) for B2B SaaS platforms.
- **PQM (Practice Quality Mindfulness Tracker):** Developed an application based on my validated Practice Quality-Mindfulness scale (Del Re et al., 2013) to track the quality of mindfulness practice and optimize mental health outcomes.
- **Compute.ES Calculator:** Built a privacy-first web application for calculating meta-analysis effect sizes ( $d, g, r, OR$ ) with batch CSV processing capabilities.
- **Stanford C-Score Tool:** Engineered a live web calculator that scrapes Google Scholar to compute academic ranking percentiles based on the Ioannidis/Stanford methodology.
- **Veloz PWA:** Designed and deployed a scientifically-grounded, serverless Progressive Web App for language acquisition utilizing the “Shadow Loop” method.
- **R Packages (CRAN):** Author and maintainer of `compute.es`, `MAd`, and `MAc`, which have amassed thousands of downloads and over 600+ academic citations.

## Professional Experience

### Principal Biostatistician & Data Architect

*Del Re Data Consulting | 2009–Present* - **Real-World Evidence (RWE) Automation:** Built an automated R/Quarto pipeline to analyze large-cohort and N-of-1 longitudinal data, producing personalized patient efficacy reports for a B2B health application. - **Grant Methodological Design:** Lead Statistician for a multi-site NIH grant proposal, designing the full analytic and statistical plan for a high-stakes occupational health intervention. - **EHR Data Pipelines:** Designed the data cleaning and analysis pipeline to analyze longitudinal patient outcomes for a major Behavioral Health EHR system. - **Predictive Algorithm Engineering:** Created the core predictive algorithm forecasting patient treatment trajectories based on real-time longitudinal data for a psychotherapy outcomes platform.

### Research Psychologist & Lead Statistician

*University of Kassel/University of Zürich | 2020–Present* - Directed multilevel meta-analysis projects analyzing therapeutic alliance and psychological outcomes. - Wrote methodological reports and statistical analysis plans for peer-reviewed medical journals.

## Research Psychologist

*Navy Health Research Center (NHRC) | 2018–2020* - Led large-scale epidemiological data analysis on psychological readiness among active-duty military personnel. - Applied generalized linear models to massive DoD datasets to track military health trends.

## Lead Health Services Program Analyst

*Palo Alto VA (Health Services Research) | 2013–2017* - Executed Health Services Research by building and deploying SQL-based data dashboards used nationwide by VA administrators to monitor healthcare efficacy. - Translated raw metrics into automated reporting systems for executive leadership.

## Postdoctoral Fellow

*Stanford University School of Medicine (Health Services Research) | 2011–2013* - Conducted advanced biostatistical modeling, predictive analysis, and health services research for Stanford's medical research teams.

## Education

- **PhD, Counseling Psychology** (Minor in Quantitative Methods) – *University of Wisconsin-Madison* | 2011

## Selected Publications

- **Academic Portfolio:** 78+ peer-reviewed publications with 12,000+ citations.
- *For a complete list of publications, interactive dashboards, and open-source code, please visit: [acdelre.github.io](https://acdelre.github.io)*