

GRECIO JAN SANDOVAL

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EDUCATION

- Ph.D., Biostatistics** August 2021
The George Washington University, Washington, DC
Dissertation Title: *On Cost-Efficient Designs for Clinical Studies*
Advisors: Ionut Bebu and John M. Lachin
- M.A., Biostatistics** September 2009
Boston University, Boston, MA
- B.S., Mathematics (Mathematical Sciences)** May 2007
The University of Texas at Austin, Austin, TX
- Summer Institute for Training in Biostatistics* June - July 2006
Boston University School of Public Health (funded by NHLBI), Boston, MA

PROFESSIONAL EXPERIENCE

- The George Washington University Biostatistics Center**, Rockville, MD
Assistant Research Professor of Biostatistics and Bioinformatics November 2021 - present
Biostatistician II August 2014 - October 2021
- Provide statistical support for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) Maternal-Fetal Medicine Units (MFMU) Network. The goal of the network is to conduct clinical trials and epidemiological studies in maternal-fetal medicine.
 - Statistician for publication manuscripts of secondary analyses. Responsibilities include: interact and collaborate with medical researchers, execute and interpret analyses, write and review statistical sections of manuscript.
 - Project manager and statistician for "An Observational Study of Hepatitis C Virus in Pregnancy".
 - Statistician for "Prenatal Genetic Diagnosis by Genomic Sequencing: A Prospective Evaluation".
 - Project manager and statistician for observational study, "Maternal Morbidity and Mortality During the COVID-19 Pandemic".
- PROMETRIKA, LLC**, Cambridge, MA
- Biostatistician II* January 2014 - July 2014
Biostatistician September 2009 - December 2013
Intern, Biostatistics August 2007 - August 2009
- Provided statistical services to clients in the pharmaceutical and biotechnology industry for Phase I-IV clinical trials. Responsibilities included: design statistical analysis plans, develop analysis dataset specifications, program and validate analysis datasets (CDISC ADaM), produce and validate tables/listings/figures, write statistical reports.
 - Developed analysis plans and provided data and analysis support for Data Monitoring Committee activities.
 - Interacted with clients, acted as project leader for biostatistical and SAS programming projects.
 - Provided statistical consulting and SAS programming assistance for other departments within the company, including data management, database, and medical writing.
 - Participated in clinical research for the following therapeutic areas: multiple sclerosis, respiratory tract infections, glaucoma, type 2 diabetes, oncology.

OTHER EXPERIENCE

- Ad hoc statistical reviewer, 2022: *BMJ Open*
- Ad hoc reviewer, 2022: *American Journal of Perinatology*, *The Journal of Maternal-Fetal & Neonatal Medicine*, *Journal of Biopharmaceutical Statistics*
- Data Safety Monitoring Board, Conservative management as an alternative to hysterectomy for placenta accreta spectrum: a pilot randomized controlled trial (University of Utah funded by NICHD), 2022 - Present

COMPUTER EXPERIENCE

- Proficient in SAS (Windows) and Enterprise Guide: extensive knowledge of data manipulation, statistical procedure, output delivery system (ODS), and macros
- Facility with R, RStudio
- Software: Wolfram Mathematica
- Other: Microsoft Office, L^AT_EX

PROFESSIONAL TRAINING

Adaptive Design in Confirmatory Clinical Trials, <i>New England Statistics Symposium</i>	2014
ADaM Implementation Course, <i>CDISC Interchange</i>	2012
Statistical Training Sessions, <i>Drug Information Association Annual Meeting</i>	2011

AFFILIATIONS

American Statistical Association, *Member*
International Biometric Society (Eastern North American Region), *Member*
Society for Clinical Trials, *Member*

HONORS & ACHIEVEMENTS

Golden Key International Honour Society
Graduate Research Assistant Scholarship Program, *Boston University*
University of Texas at Austin College Scholar
Alpha Lambda Delta, *National Honor Society for First Year Students*

CONFERENCE PRESENTATIONS

1. **Sandoval GJ**. "Desirability Of Outcome Ranking (DOOR) Methodology Applied to a Trial of Induction versus Expectant Management". Poster presentation. Society for Maternal-Fetal Medicine (SMFM), 2023.
2. **Sandoval GJ**, Bebu I, Lachin JM. "Cost-Efficient Two Stage Sequential Multiple Assignment Randomized Trial (SMART) Designs". Contributed poster. Joint Statistical Meetings (JSM), Virtual Conference, 2020.
3. **Sandoval GJ**, Bebu I, Lachin JM. "Cost-Efficient Clinical Studies with Continuous Time-to-Event Outcomes". Contributed session (recorded video). Society for Clinical Trials (SCT), Online, 2020.

MANUSCRIPTS SUBMITTED OR IN PREPARATION

1. **Sandoval GJ**, Bebu I, Lachin JM. "Cost-Efficient Two Stage Sequential Multiple Assignment Randomized Trial (SMART) Designs". (In preparation).
2. **Sandoval GJ**, et al. "Desirability Of Outcome Ranking (DOOR) Methodology Applied to a Trial of Induction versus Expectant Management". (In preparation).
3. **Sandoval GJ**, et al. "Predictors of lost to follow-up for pregnant individuals with hepatitis C virus (HCV) and perinatal HCV exposed children". (In preparation).
4. **Sandoval GJ**, et al. "Prediction models for worsening COVID-19 severity and intensive care unit on or after delivery admission in pregnancies with asymptomatic or mild COVID-19". (In preparation).

PUBLICATIONS

1. **Sandoval GJ**, Bebu I, Lachin JM. Cost-efficient multiply matched case-control study designs. *American journal of epidemiology*. 2022;191(11): 1970-1974. <https://doi.org/10.1093/aje/kwac138>. PMID: 35916344
2. Metz TD, Clifton RG, Hughes BL, **Sandoval GJ**, Grobman WA, Saade GR, Manuck TA, Longo M, Sowles A, Clark K, Simhan HN, Rouse DJ, Mendez-Figueroa H, Gyamfi-Bannerman C, Bailit J, Costantine MM, Sehdev HM, Tita ATN, Macones GA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association Between Giving Birth During the Early Coronavirus Disease 2019 (COVID-19) Pandemic and Serious Maternal Morbidity. *Obstetrics & Gynecology*. Published: October 27, 2022. (Epub Ahead of Print). <https://doi.org/10.1097/AOG.0000000000004982>.
3. Hughes BL, **Sandoval GJ**, Metz TD, Clifton RG, Grobman WA, Saade GR, Manuck TA, Longo M, Sowles A, Clark K, Simhan HN, Rouse DJ, Mendez-Figueroa H, Gyamfi-Bannerman C, Bailit J, Costantine MM, Sehdev HM, Tita ATN, Macones GA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. First or second trimester SARS-CoV-2 infection and subsequent pregnancy outcomes. *American journal of obstetrics and gynecology*. Published: August 12, 2022; (In Press). <https://doi.org/10.1016/j.ajog.2022.08.009>. PMID: 35970201
4. Battarbee AN, **Sandoval GJ**, Gyamfi-Bannerman C, Blackwell SC, Tita ATN, Reddy UM, Jain L; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Mechanism of neonatal hypoglycemia after late preterm steroids: are fetal metabolic effects responsible?. *American journal of obstetrics and gynecology*. 2022;227(2): 347-349.e4. <https://doi.org/10.1016/j.ajog.2022.03.045>. PMID: 35364060
5. Costantine MM, **Sandoval GJ**, Grobman WA, Reddy UM, Tita ATN, Silver RM, El-Sayed YY, Wapner RJ, Rouse DJ, Saade GR, Thorp JM Jr, Chauhan SP, Chien EK, Casey BM, Srinivas SK, Swamy GK, Simhan, HN; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association of Body Mass Index With the Use of Health Care Resources in Low-Risk Nulliparous Pregnancies After 39 Weeks of Gestation. *Obstetrics & Gynecology*. 2022;139(5): 866-876. <https://doi.org/10.1097/aog.0000000000004753>. PMID: 35576345
6. Costantine MM, **Sandoval G**, Grobman WA, Bailit JL, Reddy UM, Wapner RJ, Varner MW, Thorp JM Jr, Caritis SN, Prasad M, Tita ATN, Sorokin Y, Rouse DJ, Blackwell SC, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. A Model to Predict Vaginal Delivery and Maternal and Neonatal Morbidity in Low-Risk Nulliparous Patients at Term. *American journal of perinatology*. 2022;39(7): 786-797. <https://doi.org/10.1055/s-0040-1718704>. PMID: 33075842
7. Wagner SM, **Sandoval G**, Grobman WA, Bailit JL, Wapner RJ, Varner MW, Thorp JM Jr, Prasad M, Tita ATN, Saade GR, Sorokin Y, Rouse DJ, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Labor Induction at 39 Weeks Compared with Expectant Management in Low-Risk Parous Women. *American journal of perinatology*. 2022;39(5): 519-525. <https://doi.org/10.1055/s-0040-1716711>. PMID: 32916751
8. Metz TD, Clifton RG, Hughes BL, **Sandoval GJ**, Grobman WA, Saade GR, Manuck TA, Longo M, Sowles A, Clark K, Simhan HN, Rouse DJ, Mendez-Figueroa H, Gyamfi-Bannerman C, Bailit J, Costantine MM, Sehdev HM, Tita ATN, Macones GA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association of SARS-CoV-2 infection with serious morbidity and mortality from obstetric complications. *JAMA*. 2022;327(8): 748-759. <https://doi.org/10.1001/jama.2022.1190>. PMID: 35129581

9. Battarbee AN, **Sandoval G**, Grobman WA, Bailit JL, Reddy UM, Wapner RJ, Varner MW, Caritis SN, Prasad M, Tita ATN, Saade GR, Sorokin Y, Rouse DJ, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Antenatal Corticosteroids and Preterm Neonatal Morbidity and Mortality among Women with and without Diabetes in Pregnancy. *American journal of perinatology*. 2022;39(1): 67-74. <https://doi.org/10.1055/s-0040-1714391>. PMID: 32717749
10. Grobman WA, **Sandoval G**, Rice MM, Bailit JL, Chauhan SP, Costantine MM, Gyamfi-Bannerman C, Metz TD, Parry S, Rouse DJ, Saade GR, Simhan HN, Thorp JM Jr, Tita ATN, Longo M, Landon MB; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Prediction of vaginal birth after cesarean in term gestations: A calculator without race and ethnicity. *American journal of obstetrics and gynecology*. 2021;225(6): 664.e1-7. <https://doi.org/10.1016/j.ajog.2021.05.021>. PMID: 34043983
11. **Sandoval GJ**. On Cost-Efficient Designs for Clinical Studies (Publication No. 28648338) [Doctoral dissertation, The George Washington University]. ProQuest Dissertations & Theses Global.
12. Battarbee AN, **Sandoval G**, Grobman WA, Reddy UM, Tita ATN, Silver RM, El-Sayed YY, Wapner RJ, Rouse DJ, Saade GR, Chauhan SP, Iams JD, Chien EK, Casey BM, Gibbs RS, Srinivas SK, Swamy GK, Simhan HN; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Maternal and Neonatal Outcomes Associated with Amniotomy among Nulliparous Women Undergoing Labor Induction at Term. *American journal of perinatology*. 2021;38(S1): e239-48. <https://doi.org/10.1055/s-0040-1709464>. PMID: 32299106
13. **Sandoval GJ**, Bebu I, Lachin JM. Cost-efficient clinical studies with continuous time survival outcomes. *Statistics in medicine*. 2021;400(16): 3682-94. <https://doi.org/10.1002/sim.8992>. PMID: 33851432
14. Metz TD, Clifton RG, Hughes BL, **Sandoval G**, Saade GR, Grobman WA, Manuck TA, Miodovnik M, Sowles A, Clark K, Gyamfi-Bannerman C, Mendez-Figueroa H, Sehdev HM, Rouse DJ, Tita ATN, Bailit J, Costantine MM, Simhan HN, Macones GA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Disease Severity and Perinatal Outcomes of Pregnant Patients with Coronavirus Disease 2019 (COVID-19). *Obstetrics & Gynecology*. 2021;137(4): 571-80. <https://doi.org/10.1097/aog.0000000000004339>. PMID: 33560778
15. Einerson BD, Nelson RE, **Sandoval G**, Esplin MS, Branch DW, Metz TD, Silver RM, Grobman WA, Reddy UM, Varner M; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Cost of Elective Labor Induction Compared with Expectant Management in Nulliparous Women. *Obstetrics & Gynecology*. 2020;136(1): 19-25. <https://doi.org/10.1097/aog.0000000000003930>. PMID: 32541288
16. Grobman WA, **Sandoval G**, Reddy UM, Tita ATN, Silver RM, Mallett G, Hill K, Rice MM, El-Sayed YY, Wapner RJ, Rouse DJ, Saade GR, Thorp JM Jr, Chauhan SP, Iams JD, Chien EK, Casey BM, Gibbs RS, Srinivas SK, Swamy GK, Simhan HN, Macones GA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Health Resource Utilization of Labor Induction versus Expectant Management. *American journal of obstetrics and gynecology*. 2020;222(4): 369.e1-11. <https://doi.org/10.1016/j.ajog.2020.01.002>. PMID: 31930993
17. Prasad M, Saade GR, **Sandoval G**, Hughes BL, Reddy UM, Mele L, Salazar A, Varner MW, Gyamfi-Bannerman C, Thorp JM Jr, Tita ATN, Swamy GK, Chien EK, Casey BM, Peaceman AM, El-Sayed YY, Iams JD, Gibbs RS, Sibai B, Wiese N, Kamili S, Macones GA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Hepatitis C Virus Antibody Screening in a Cohort of Pregnant Women: Identifying Seroprevalence and Risk Factors. *Obstetrics & Gynecology*. 2020;135(4): 778-788. <https://doi.org/10.1097/aog.0000000000003754>. PMID: 32168224

18. Glover AV, Battarbee AN, Gyamfi-Bannerman C, Boggess KA, **Sandoval G**, Blackwell SC, Tita ATN, Reddy UM, Jain L, Saade GR, Rouse DJ, Iams JD, Clark EAS, Chien EK, Peaceman AM, Gibbs RS, Swamy GK, Norton ME, Casey BM, Caritis SN, Tolosa JE, Sorokin Y, Manuck TA; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association Between Features of Spontaneous Late Preterm Labor and Late Preterm Birth. *American journal of perinatology*. 2020;37(4): 357-64. <https://doi.org/10.1055/s-0039-1696641>. PMID: 31529452
19. Plunkett BA, **Sandoval G**, Bailit JL, Reddy UM, Wapner RJ, Varner MW, Thorp JM Jr, Caritis SN, Prasad M, Tita ATN, Saade GR, Sorokin Y, Rouse DJ, Blackwell SC, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association of Labor with Neonatal Respiratory Outcomes at 36-40 Weeks Gestation. *Obstetrics & Gynecology*. 2019;134(3): 495-501. <https://doi.org/10.1097/aog.0000000000003415>. PMID: 31403604
20. Gyamfi-Bannerman C, Zupancic JAF, **Sandoval G**, Grobman WA, Blackwell SC, Tita ATN, Reddy UM, Jain L, Saade GR, Rouse DJ, Iams JD, Clark EAS, Thorp JM Jr, Chien EK, Peaceman AM, Gibbs RS, Swamy GK, Norton ME, Casey BM, Caritis SN, Tolosa JE, Sorokin Y; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Cost-effectiveness of Antenatal Corticosteroid Therapy vs No Therapy in Women at Risk of Late Preterm Delivery: A Secondary Analysis of a Randomized Clinical Trial. *JAMA pediatrics*. 2019;173(5): 462-68. <https://doi.org/10.1001/jamapediatrics.2019.0032>. PMID: 30855640
21. Werner EF, Romano ME, Rouse DJ, **Sandoval G**, Gyamfi-Bannerman C, Blackwell SC, Tita ATN, Reddy UM, Jain L, Saade GR, Iams JD, Clark EAS, Thorp JM Jr, Chien EK, Peaceman AM, Swamy GK, Norton ME, Casey BM, Caritis SN, Tolosa JE, Sorokin Y; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association of Gestational Diabetes Mellitus with Neonatal Respiratory Morbidity. *Obstetrics & Gynecology*. 2019;133(2): 349-53. <https://doi.org/10.1097/aog.0000000000003053>. PMID: 30633135
22. Grobman WA, Bailit J, **Sandoval G**, Reddy UM, Wapner RJ, Varner MW, Thorp JM Jr, Caritis SN, Prasad M, Tita ATN, Saade GR, Sorokin Y, Rouse DJ, Blackwell SC, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association of Decision-to-Incision Time for Cesarean Delivery with Maternal and Neonatal Outcomes. *American journal of perinatology*. 2018;35(3): 247-53. <https://doi.org/10.1055/s-0037-1606641>. PMID: 28915515
23. Yee LM, **Sandoval G**, Bailit JL, Reddy UM, Wapner RJ, Varner MW, Caritis SN, Prasad M, Tita AT, Saade G, Sorokin Y, Rouse DJ, Blackwell SC, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Maternal and Neonatal Outcomes with Early Compared with Delayed Pushing among Nulliparous Women. *Obstetrics & Gynecology*. 2016;128(5): 1039-47. <https://doi.org/10.1097/aog.0000000000001683>. PMID: 27741203
24. Froehlich RJ, **Sandoval G**, Bailit JL, Grobman WA, Reddy UM, Wapner RJ, Varner MW, Thorp JM Jr, Prasad M, Tita ATN, Saade G, Sorokin Y, Blackwell SC, Tolosa JE; for the Eunice Kennedy Shriver National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Association of Recorded Estimated Fetal Weight and Cesarean Delivery in Attempted Vaginal Delivery at Term. *Obstetrics & Gynecology*. 2016;128(3): 487-94. <https://doi.org/10.1097/aog.0000000000001571>. PMID: 27500344