



Suzan L Carmichael, PhD, MS

Professor (Research) of Pediatrics (Neonatology), of Obstetrics & Gynecology (Maternal Fetal Medicine) and, by courtesy, of Epidemiology and Population Health

Pediatrics - Neonatology

Bio

BIO

Dr. Carmichael is a perinatal and nutritional epidemiologist and Professor of Pediatrics and Obstetrics and Gynecology at the Stanford University School of Medicine. Her research focuses on finding ways to improve maternal and infant health. Exposure themes include nutrition, social context, care, environmental contaminants and genetics. Outcomes include severe maternal morbidity, stillbirth, birth defects, and preterm delivery. She is particularly interested in understanding the intersection of these varied types of exposures and outcomes and how they interact to impact health and health disparities, for the mother-baby dyad, in domestic as well as global health settings.

ACADEMIC APPOINTMENTS

- Professor (Research), Pediatrics - Neonatology
- Professor (Research), Obstetrics & Gynecology - Maternal Fetal Medicine
- Professor (Research) (By courtesy), Epidemiology and Population Health
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Co-Director, Perinatal Epidemiology & Population Health, Dunlevie Maternal Fetal Medicine Center, Stanford, (2022- present)
- Adjunct Professor, Dept. of Epidemiology, Tulane Univ. School of Public Health & Tropical Medicine, (2022- present)
- Fellow, Center for Emerging Reproductive & Perinatal Epidemiology (CERPE), Tulane Univ. School of Public Health & Tropical Medicine, (2022-present)
- Faculty Senator, Stanford University, (2020-2022)
- Head, Department of Pediatrics Research and Statistical Unit, (2012-2018)
- Epidemic Intelligence Service Officer, CDC, (1996-1998)

HONORS AND AWARDS

- Fulbright Scholar Award, University of Bergen (2023)
- Scholars in Service Award, Stanford Impact Labs and Haas Center for Public Service (2022-2023)
- Post-Doc Mentor Award, Dept. of Pediatrics, Stanford Univ. School of Medicine (2020)
- F. Clarke Fraser New Investigator Award, Teratology Society (2005)
- Public Health Citation, Public Health Service, DHHS (1997)
- Warren Winkelstein Epidemiology Award, U.C., Berkeley (1996)

- Regents Fellowship and Kaiser Fellowship, U.C., Berkeley (1994-95)
- A.J. Bryan Scholarship, Kaiser Fellowship, U.C., Berkeley (1993-94)
- Lechner Fellowship, Texas A&M University (1984-88)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- President-Elect, President, Past President, Society for Pediatric and Perinatal Epidemiologic Research (2014 - 2017)
- Associate Editor, Annals of Epidemiology (2009 - 2022)
- Faculty Fellow, Stanford Center for Population Health Sciences (2017 - present)
- Member, Science Advisory Board, Developmental and Reproductive Toxicant Identification Committee, OEHHA, State of California (2015 - present)
- Epidemiology Section Editor, Cleft Palate-Craniofacial Journal (2014 - 2017)
- Member at Large, Society for Pediatric and Perinatal Epidemiologic Research (2007 - 2011)
- Secretary, Society for Pediatric and Perinatal Epidemiologic Research (1998 - 2002)

PROFESSIONAL EDUCATION

- PhD, U.C., Berkeley , Epidemiology (1996)
- M.S., U.C., Davis , International Agricultural Development (1992)
- B.S., Texas A&M University , Scientific Nutrition (1988)

COMMUNITY AND INTERNATIONAL WORK

- Peace Corps Volunteer, Honduras, 1992

LINKS

- Carmichael Lab web-site: <https://med.stanford.edu/carmichaellab.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Carmichael is a perinatal and nutritional epidemiologist and Professor of Pediatrics and Obstetrics and Gynecology at the Stanford University School of Medicine.

Her team is committed to finding ways to improve maternal and infant health outcomes and equity by leading research that identifies effective leverage points for change, from upstream 'macro' social and structural factors, to downstream clinical factors (eg, related to care and morbidities) through a collaborative research approach that integrates epidemiologic approaches with community engagement and systems thinking.

Exposure themes include social context, nutrition, care, environmental contaminants and genetics. Outcome themes include severe maternal morbidity, stillbirth, birth defects, and preterm delivery. She is particularly interested in understanding the intersectionality of these varied types of exposures and outcomes and how they interact to impact health and health disparities, for the mother-baby dyad.

Please see the team web-site for further information!

<https://med.stanford.edu/carmichaellab.html>

Teaching

STANFORD ADVISEES

Med Scholar Project Advisor

Megan Sparrow

Postdoctoral Faculty Sponsor

Mekhala Dissanayake, Elleni Hailu, Chelse Spinner

Master's Program Advisor

Amy Huang, Hiroka Yoshikawa

Publications

PUBLICATIONS

- **Pathology Following Stillbirth: Differences by Insurance Status and Educational Attainment.** *Paediatric and perinatal epidemiology*
Diamond, E., Carmichael, S. L., Main, E. K., Miller, H. E., Booman, A., Leonard, S. A.
2026
- **Wildland fire smoke, severe maternal morbidity, and health equity: A population-based cohort study in California.** *The Science of the total environment*
Gao, X., Ma, C., Stone, J., Lurmann, F., Pavlovic, N. R., Main, E. K., Carmichael, S. L., Padula, A. M.
2026; 1034: 181838
- **Evaluation of PROMIS Sleep Disturbance Item Bank for Postpartum Insomnia Disorder Screening**
Hidajat, N., Takenoshita, M., Michel, G., Jalali-Sohi, A., Manber, R., Lyell, D., Mhyre, J., Cella, D., Shaunfield, S., Mackey, S., Tian, L., Carmichael, S., Tang, et al
OXFORD UNIV PRESS INC.2026: A184
- **Characterizing Postpartum Sleep and the Prevalence of Postpartum Insomnia Disorder**
Takenoshita, M., Jalali-Sohi, A., Hidajat, N., Manber, R., Guo, N., Michel, G., El-Khateb, R., Mhyre, J., Cella, D., Shaunfield, S., Tang, X., Carmichael, S., Tian, et al
OXFORD UNIV PRESS INC.2026: A183
- **Neighborhood-level socioeconomic position and mortality among children born with critical congenital heart defects.** *American journal of epidemiology*
Mowla, S. J., Martin, C. L., Stingone, J. A., Luben, T. J., Forestieri, N. E., Oster, M. E., Ailes, E. C., Evans, S. P., Fisher, S. C., Romitti, P. A., Carmichael, S. L., Lupo, P. J., Darling, et al
2026
- **Development and Application of an Algorithm to Identify the Primary Underlying Condition for Cases of Severe Maternal Morbidity.** *Obstetrics and gynecology*
Main, E. K., McCormick, E. K., Tomlinson, M. W., Ma, C., Carpenter, A. M., Leonard, S. A., Alcazar, M., Deeds, T., Dragoo, S., Durham, L., Lagrew, D. C., Lyell, D. J., Semenuk, et al
2026
- **Quality-Improvement Lessons From Thematic Analysis of Severe Maternal Morbidity Survivor Experiences.** *Obstetrics and gynecology*
Tucker, C. M., Phung, B. T., Calix, I., Magalhaes, M., Jalloh, R., Carmichael, S. L., Lyndon, A.
2026
- **The Role of State Perinatal Quality Collaboratives in Addressing Maternal Morbidity and Mortality.** *Obstetrics and gynecology*
Radke, S., Borders, A., Gillispie-Bell, V., Lee King, P. A., Main, E. K., Carmichael, S. L.
2026
- **Maternal Congenital Heart Defects are Associated with Increased Risk of Gestational Diabetes During Pregnancy.**
Harvey, L., Sherwin, E., Plummer, X., Caraballo, G., Munoz, Y., Parker, G., Dunsby, B., Carmichael, S., Kandelwal, A., Bianco, K.

SPRINGER HEIDELBERG.2026

- **Increased Primary Cesarean Births among People with Epilepsy: A Population-Based Cohort Study.** *Journal of women's health (2002)*
Darmawan, K. F., Leonard, S. A., Meador, K. J., McElrath, T., Carmichael, S. L., Lyell, D., El-Sayed, Y. Y., Herrero, T., Druzin, M. L., Panelli, D. M.
2026: 15409996251405047
- **Assessing the Role of Cardiac Disease in Severe Maternal Morbidity: A Population-Based Cohort Study.** *O&G open*
Darmawan, K. F., Sherwin, E. B., Leonard, S. A., Panelli, D. M., Mayo, J. A., Girsen, A. I., Carmichael, S. L., Khandelwal, A., Bianco, K.
2026; 3 (1): e152
- **Rurality, racial marginalization, and severe maternal morbidity risk in California, 1997-2019.** *Preventive medicine*
Hailu, E. M., Berkowitz, R. L., Kan, P., Carmichael, S. L., Mujahid, M. S.
2026: 108522
- **Hypertensive Disorders of Pregnancy in Asian American, Native Hawaiian, and Pacific Islander Individuals in California, 2007 to 2019.** *Journal of the American Heart Association*
Soh, J., Carvalho Magalhaes, M., Ma, C., Tsai, S., Main, E. K., Carmichael, S. L.
2026: e042477
- **Neighborhood-level Measures of Structural Racism and Severe Maternal Morbidity among Black Mothers in California.** *Epidemiology (Cambridge, Mass.)*
Hailu, E. M., Riddell, C. A., Tamene, M., Carmichael, S. L., Mujahid, M. S.
2025
- **Maternal Folic Acid Supplement Use, Folate Intake, and Preterm Birth Among Infants With Spina Bifida.** *Birth defects research*
Benjamin, R. H., Ludorf, K. L., Allred, R. P., Patel, J. R., Nembhard, W. N., Shaw, G. M., Carmichael, S. L., Desrosiers, T. A., Nestoridi, E., Williford, E. M., Agopian, A. J.
2025; 117 (12): e70008
- **Neighbourhood Poverty Histories and Severe Maternal Morbidity Across California Census Tracts.** *Paediatric and perinatal epidemiology*
Maddali, S. R., Cabrera, J., Gao, X., Morello-Frosch, R., Bradshaw, P. T., Carmichael, S., Mujahid, M.
2025
- **Risk factors for the recurrence of Severe Maternal Morbidity in first and second births in California, 1997-2020.** *American journal of obstetrics and gynecology*
Bane, S., Magalhães, M., Snowden, J. M., Kan, P., Lyndon, A., Carmichael, S. L.
2025
- **Severe Maternal Morbidity: Fundamental Concepts** *CURRENT EPIDEMIOLOGY REPORTS*
Joseph, K. S., Lisonkova, S., Muraca, G. M., Henderson, I., Wainstock, T., Razaz, N., Carmichael, S. L., Knight, M., Yoles, I.
2025; 12 (1)
- **Comparative Measurements: Ethnic Enclaves and Severe Maternal Morbidity in Asian, Black, and Hispanic Neighborhoods in California.** *Journal of urban health : bulletin of the New York Academy of Medicine*
Maddali, S. R., Cabrera, J., Gao, X., Tamene, M., Morello-Frosch, R., Bradshaw, P. T., Carmichael, S., Mujahid, M.
2025
- **Trends and Racial and Ethnic Disparities in Maternal Cardiovascular Health in California.** *Journal of the American Heart Association*
Hailu, E. M., Carmichael, S. L., Snowden, J. M., Lyndon, A., Main, E., Mujahid, M. S.
2025: e039295
- **Timing of Critical Congenital Heart Defect Detection:A Multi-Site Population-Based Study.** *The Journal of pediatrics*
Moss, S. E., Ailes, E., Downing, K. F., Fundoraa, M. P., Bolin, E. H., Carmichael, S. L., Glidewell, J., Liberman, R. F., Ostera, M. E., Shaw, G. M., Farr, S. L.
2025: 114825
- **Severe Maternal Morbidity Among Adolescents Aged 10-19 in California, 2001-2020.** *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*
Carvalho Magalhães, M. N., Soh, J. S., Snowden, J. M., Main, E. K., Kan, P., Carmichael, S. L.
2025

- **Severe maternal morbidity in Louisiana by race, rurality, poverty, and availability of care.** *Public health*
Gillispie-Bell, V., Bane, S., Martin, J., Kan, P., Mujahid, M. S., Carmichael, S. L.
2025; 246: 105824
- **Structural racism and perinatal mental health - The role of racialized economic segregation.** *Social science & medicine (1982)*
Tamene, M., McKenzie-Sampson, S., Ahern, J., Bradshaw, P. T., Carmichael, S. L., Mujahid, M. S.
2025; 381: 118296
- **Hypertensive Disorders of Pregnancy, Preterm Delivery, and Infant Size: Which Mothers Have Highest Cardiovascular Disease Mortality?** *Paediatric and perinatal epidemiology*
Wyatt, S., Skjærven, R., Vatten, L., Wilcox, A. J., Singh, A., Klungsøyr, K., Carmichael, S. L., Morken, N. H., Lie, R. T., Kvalvik, L. G.
2025
- **Association between maternal periconceptional dietary patterns and occurrence of orofacial clefts.** *American journal of epidemiology*
Sley, E. G., Desrosiers, T. A., Sotres-Alvarez, D., Carmichael, S. L., Maselko, J., Wood, M. E., Ailes, E. C., Nembhard, W. N., Yang, W., Olshan, A. F., Defects Prevention Study, A. T.
2025
- **Can Birth Hospital Explain Racial/Ethnic Differences in Cesarean Birth Among Low-Risk Births? An Analysis of California Data, 2007-2018.** *Journal of racial and ethnic health disparities*
Bane, S., Mujahid, M. S., Kan, P., Main, E. K., Carmichael, S. L.
2025
- **Building Predictive Models for Preterm Birth Among Infants with Congenital Limb Defects**
Ludorf, K. L., Benjamin, R. H., Allred, R. P., Patel, J. R., Nembhard, W. N., Shaw, G. M., Carmichael, S. L., Desrosiers, T. A., Nestoridi, E., Williford, E. M., Swartz, M. D., Coban-Akdemir, Z., Byrd-Williams, et al
WILEY.2025: S48
- **Maternal Smoking and Preterm Birth Among Infants with Orofacial Clefts**
Han, P., Benjamin, R. H., Ludorf, K. L., Allred, R. P., Patel, J. R., Nembhard, W. N., Shaw, G. M., Carmichael, S. L., Desrosiers, T. A., Nestoridi, E., Williford, E. M., Agopian, A. J.
WILEY.2025: S60
- **Development and Validation of the Stanford Obstetric Recovery Checklist (STORK): A Delphi Consensus and Multicenter Clinical Validation Study.** *JAMA network open*
Sultan, P., Pandal, P., Murthy, A., Guo, N., Farber, M. K., Toledo, P., Higgins, N., Fiore, J. F., Domingue, B. W., Khorasani, E., Jensen, S. E., Lyell, D. J., Carvalho, et al
2025; 8 (4): e255713
- **Markers of Maternal Morbidity: Research Recommendations for Severe Perineal Lacerations, Severe Maternal Morbidity, and Other Complications.** *Women's health issues : official publication of the Jacobs Institute of Women's Health*
Carmichael, S. L., Kan, P., Snowden, J. M.
2025
- **Neighborhood Disinvestment and Racial and Ethnic Disparities in Peripartum Cardiomyopathy in California, From 2004 to 2019.** *Journal of the American Heart Association*
Tucker, C. M., Ma, C., Mujahid, M. S., Hameed, A. B., Lyndon, A., Main, E. K., Carmichael, S. L.
2025: e036710
- **Episiotomy and severe perineal laceration among Asian American, Native Hawaiian, and Pacific Islander nulliparous individuals in California.** *AJOG global reports*
Chidyausiku, T., Bane, S., Sperling, M. M., Main, E. K., Carmichael, S. L.
2025; 5 (1): 100450
- **Unanswered Questions from Abortion Seekers: An application of the Research Prioritization by the Affected Community (RPAC) protocol in the Central Valley, California.** *Contraception*
Bane, S., Rivera, M., Soh, J. S., Yakzan, A., Lopez, K., Henkel, A., Cahill, E., Espinosa, P. R., Carmichael, S., Mastey, N.
2024: 110803
- **Examining the Joint Effects of Epilepsy and Mental Health Conditions on Severe Maternal Morbidity.** *Journal of women's health (2002)*
Perlman, N. C., Mayo, J. A., Leonard, S. A., Carmichael, S. L., Meador, K. J., McElrath, T. F., Druzin, M. L., Wisner, K. L., Panelli, D. M.

2024

- **Birth outcomes of individuals who have experienced incarceration during pregnancy.** *Journal of perinatology : official journal of the California Perinatal Association*
Miller-Bedell, E. R., Sie, L., Carmichael, S. L., Matoba, N., Weiner, Y., Kim, J. J., Anoshiravani, A., Seidman, D., Lyell, D. J., Lee, H. C.
2024
- **Hypertensive Disorders in Pregnancy: Differences by Hispanic Ethnicity and Black Race.** *Journal of racial and ethnic health disparities*
Atkinson, J. A., Carmichael, S. L., Leonard, S. A.
2024
- **Historical Redlining, Contemporary Gentrification, and Severe Maternal Morbidity in California, 2005-2018.** *JAMA network open*
Gao, X., Morello-Frosch, R., Nuru-Jeter, A. M., Snowden, J. M., Carmichael, S. L., Mujahid, M. S.
2024; 7 (9): e2429428
- **Survival of Children With Critical Congenital Heart Defects in the National Birth Defects Prevention Study.** *Birth defects research*
Forestieri, N. E., Olshan, A. F., Oster, M. E., Ailes, E. C., Fundora, M. P., Fisher, S. C., Shumate, C., Romitti, P. A., F Liberman, R., Nembhard, W. N., Carmichael, S. L., Desrosiers, T. A.
2024; 116 (9): e2394
- **Association of nutritional intake with clinical and imaging activity in pediatric multiple sclerosis** *MULTIPLE SCLEROSIS JOURNAL*
Mohan, S. D., Peterson, S., Brenton, J., Carmichael, S. L., Virupakshaiah, A., Rodriguez, M., Tillema, J., Mar, S., Rensel, M. R., Abrams, A., Chitnis, T., Benson, L., Gorman, et al
2024: 1056-1065
- **A Counterfactual Analysis of Impact of Cesarean Birth in a First Birth on Severe Maternal Morbidity in the Subsequent Birth.** *Epidemiology (Cambridge, Mass.)*
Bane, S., Snowden, J. M., Simard, J. F., Odden, M., Kan, P., Main, E. K., Carmichael, S. L.
2024
- **Considering pregnancies as repeated versus independent events: An empirical comparison of common approaches across selected perinatal outcomes.** *American journal of obstetrics & gynecology MFM*
Bane, S., Carmichael, S. L., Mathur, M. B., Simard, J. F.
2024: 101434
- **Exome sequencing identifies novel genes underlying primary congenital glaucoma in the National Birth Defects Prevention Study.** *Birth defects research*
Blue, E. E., Moore, K. J., North, K. E., Desrosiers, T. A., Carmichael, S. L., White, J. J., Chong, J. X., Bamshad, M. J., Jenkins, M. M., Almlie, L. M., Brody, L. C., Freedman, S. F., Reefhuis, et al
2024; 116 (7): e2384
- **Socioeconomic disadvantage and racial/ethnic disparities in low-risk cesarean birth in California.** *American journal of epidemiology*
Bane, S., Mujahid, M. S., Main, E. K., Carmichael, S. L.
2024
- **Neighborhood-level Fatal Police Violence and Severe Maternal Morbidity in California.** *American journal of epidemiology*
Hailu, E. M., Riddell, C. A., Tucker, C., Ahern, J., Bradshaw, P. T., Carmichael, S. L., Mujahid, M. S.
2024
- **Epidemiology of elective induction of labour: a timeless exposure.** *International journal of epidemiology*
Snowden, J. M., Bane, S., Osmundson, S. S., Odden, M. C., Carmichael, S. L.
2024; 53 (4)
- **Regulatory elements in SEM1-DLX5-DLX6 (7q21.3) locus contribute to genetic control of coronal nonsyndromic craniosynostosis and bone density-related traits.** *Genetics in medicine open*
Nicoletti, P., Zafer, S., Matok, L., Iron, I., Patrick, M., Haklai, R., Evangelista, J. E., Marino, G. B., Ma'ayan, A., Sewda, A., Holmes, G., Britton, S. R., Lee, et al
2024; 2
- **Trends in racial/ethnic disparities in postpartum hospital readmissions in California from 1997 to 2018.** *AJOG global reports*
Tucker, C. M., Ma, C., Mujahid, M. S., Butwick, A. J., Girsan, A. I., Gibbs, R. S., Carmichael, S. L.

2024; 4 (2): 100331

- **Prevalence and Outcomes of Emergency Room Care for Postpartum Endometritis.**
Perlman, N., Mayo, J., Leonard, S., Carmichael, S., Gibbs, R.
SPRINGER HEIDELBERG.2024: 140A
- **Validity of Birth Certificate Data Compared With Hospital Discharge Data in Reporting Maternal Morbidity and Disparities.** *Obstetrics and gynecology*
Gemmill, A., Passarella, M., Pibbs, C. S., Main, E. K., Lorch, S. A., Kozhimannil, K. B., Carmichael, S. L., Leonard, S. A.
2024
- **Structural Racism, Mass Incarceration, and Racial and Ethnic Disparities in Severe Maternal Morbidity.** *JAMA network open*
Hailu, E. M., Riddell, C. A., Bradshaw, P. T., Ahern, J., Carmichael, S. L., Mujahid, M. S.
2024; 7 (1): e2353626
- **Joint effects of epilepsy and mental health on severe maternal morbidity**
Perlman, N., Mayo, J. A., Leonard, S. A., Carmichael, S. L., McElrath, T., Meador, K., Druzin, M. L., Panelli, D. M.
MOSBY-ELSEVIER.2024: S161-S162
- **Hypertensive disorders of pregnancy and severe maternal morbidity according to race/ ethnicity, California 2007-2018**
Mayo, J. A., Perlman, N., Girsan, A., Carmichael, S. L., Leonard, S. A.
MOSBY-ELSEVIER.2024: S411
- **Associations between antepartum anemia and uterine fibroids in pregnancy by race and ethnicity**
Igbinoso, I., Mayo, J. A., Leonard, S. A., Iwekaogwu, I., Carmichael, S. L., Lyell, D. J., Eunice Kennedy Shriver Natl Inst Child Hlth Human Dev
MOSBY-ELSEVIER.2024: S264
- **Trends and Disparities in Severe Maternal Morbidity Indicator Categories During Childbirth Hospitalization in California from 1997-2017.** *American journal of perinatology*
El Ayadi, A. M., Lyndon, A., Kan, P., Mujahid, M. S., Main, E. K., Carmichael, S.
2023
- **Assessing the relationship between census tract rurality and severe maternal morbidity in California (1997-2018).** *The Journal of rural health : official journal of the American Rural Health Association and the National Rural Health Care Association*
Berkowitz, R. L., Kan, P., Gao, X., Hailu, E. M., Board, C., Lyndon, A., Mujahid, M., Carmichael, S. L.
2023
- **Preconception dietary glycemic index and risk for large-for-gestational age births.** *Nutrition (Burbank, Los Angeles County, Calif.)*
Darling, A. M., Yazdy, M. M., Garcia, M. H., Carmichael, S. L., Shaw, G. M., Nestoridi, E., National Birth Defects Prevention Study
2023; 119: 112322
- **Neighborhood Deprivation and Neural Tube Defects.** *Epidemiology (Cambridge, Mass.)*
Pruitt Evans, S., Ailes, E. C., Kramer, M. R., Shumate, C. J., Reefhuis, J., Insaf, T. Z., Yazdy, M. M., Carmichael, S. L., Romitti, P. A., Feldkamp, M. L., Neo, D. T., Nembhard, W. N., Shaw, et al
2023; 34 (6): 774-785
- **Is gastroschisis associated with county-level socio-environmental quality during pregnancy?** *Birth defects research*
Krajewski, A. K., Patel, A., Gray, C. L., Messer, L. C., Keeler, C. Y., Langlois, P. H., Reefhuis, J., Gilboa, S. M., Werler, M. M., Shaw, G. M., Carmichael, S. L., Nembhard, W. N., Insaf, et al
2023
- **Racial and Ethnic Disparities in Anemia and Severe Maternal Morbidity.** *Obstetrics and gynecology*
Igbinoso, I. I., Leonard, S. A., Noelette, F., Davies-Balch, S., Carmichael, S. L., Main, E., Lyell, D. J.
2023
- **Periconceptional intakes of methyl donors and other micronutrients involved in one-carbon metabolism may further reduce the risk of neural tube defects in offspring: a United States population-based case-control study of women meeting the folic acid recommendations.** *The American journal of clinical nutrition*
Petersen, J. M., Smith-Webb, R. S., Shaw, G. M., Carmichael, S. L., Desrosiers, T. A., Nestoridi, E., Darling, A. M., Parker, S. E., Politis, M. D., Yazdy, M. M., Werler, M. M.
2023; 118 (3): 720-728

- **Neighborhood gentrification, displacement, and severe maternal morbidity in California.** *Social science & medicine (1982)*
Gao, X., Thomas, T. A., Morello-Frosch, R., Allen, A. M., Snowden, J. M., Carmichael, S. L., Mujahid, M. S.
2023; 334: 116196
- **Are individual-level risk factors for gastroschisis modified by neighborhood-level socioeconomic factors?** *Birth defects research*
Neo, D. T., Martin, C. L., Carmichael, S. L., Guzsavas-Calikoglu, M., Conway, K. M., Evans, S. P., Feldkamp, M. L., Gilboa, S. M., Insaf, T. Z., Musfee, F. I., Shaw, G. M., Shumate, C., Werler, et al
2023
- **Oxidative balance scores and neural crest cell-related congenital anomalies.** *Birth defects research*
Carmichael, S. L., Yang, W., Ma, C., Desrosiers, T. A., Weber, K., Collins, R. T., Nestoridi, E., Shaw, G. M.
2023
- **Early postpartum hospital encounters among patients with genitourinary and wound infections during hospitalization for birth.** *American journal of perinatology*
Leonard, S. A., Girsen, A., Trepman, P., Carmichael, S. L., Darmawan, K., Butwick, A., Gibbs, R.
2023
- **Racial and Ethnic Disparities in Primary Cesarean Birth and Adverse Outcomes Among Low-Risk Nulliparous People.** *Obstetrics and gynecology*
Carmichael, S. L., Snowden, J.
2023; 141 (5): 1024
- **Neighborhood-level socioeconomic position during early pregnancy and risk of gastroschisis.** *Epidemiology (Cambridge, Mass.)*
Neo, D. T., Desrosiers, T. A., Martin, C. L., Carmichael, S. L., Guzsavas-Calikoglu, M., Conway, K. M., Evans, S. P., Feldkamp, M. L., Gilboa, S. M., Insaf, T. Z., Musfee, F. I., Shaw, G. M., Shumate, et al
2023
- **Exome-wide assessment of isolated biliary atresia: A report from the National Birth Defects Prevention Study using child-parent trios and a case-control design to identify novel rare variants.** *American journal of medical genetics. Part A*
Sok, P., Sabo, A., Almlı, L. M., Jenkins, M. M., Nembhard, W. N., Agopian, A. J., Bamshad, M. J., Blue, E. E., Brody, L. C., Brown, A. L., Browne, M. L., Canfield, M. A., Carmichael, et al
2023
- **Neighborhood Deprivation and Severe Maternal Morbidity in the State of California: An Examination of Effect Modification by Race/Ethnicity.** *American journal of obstetrics & gynecology MFM*
Mujahid, M. S., Wall-Wieler, E., Hailu, M. E., Berkowitz, R. L., Gao, M. X., Morris, M. C., Abrams, B., Lyndon, A., Carmichael, S. L.
2023: 100916
- **Prepregnancy body mass index and gestational diabetes mellitus across Asian and Pacific Islander subgroups in California.** *AJOG global reports*
Sperling, M. M., Leonard, S. A., Blumenfeld, Y. J., Carmichael, S. L., Chueh, J.
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- **Factors Associated with Transfer Distance from Birth Hospital to Repair Hospital for First Surgical Repair among Infants with Myelomeningocele in California.** *American journal of perinatology*
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