

Daniel Hsiang-Te Tsai

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BIO

Daniel Tsai is a postdoctoral research fellow at Population Health Data Center, NCKU. He specializes in comparative effectiveness research and policy research. His expertise includes triangulating claims databases, electronic health records, and biomedical databases to inform causal inference. Additionally, he is actively involved in the intersection of artificial intelligence and geriatric medicine. Moreover, Daniel serves as an educational co-lead of the Asian Pharmacoepidemiology Network (AsPEN) and is an active member of the Neurological and Mental Health Global Epidemiology Network (NeuroGEN), where he contributes to fostering international research collaboration and advancing pharmacoepidemiology.

EDUCATION

PhD in Pharmacoepidemiology, National Cheng Kung University (August 2023- July 2026)

MClinPharm in Clinical Pharmacy, National Cheng Kung University (August 2019-July 2021)

BS in Pharmacy, China Medical University (September 2014-June 2019)

CURRENT EMPLOYMENT

May 2024 – present

Population Health Data Center, NCKU, Taiwan

Research Fellow and Operations/Technology Lead

PREVIOUS EXPERIENCES

August 2021 – July 2024

Centre for Neonatal and Paediatric Infection, St George's, University of London, UK

Research Data Analyst

September 2019 – July 2021

National Cheng Kung University Hospital, Taiwan

Clinical Pharmacist

GRANTS

I have contributed to multiple projects from industry (Amgen, Clarivate, Prospection), government (Taiwan's National Science and Technology Council, National Institutes of Health, Ministry of Education), focusing on real-world evidence, pharmacoepidemiology, causal inference. Additionally, my contributions have been recognized by multiple ISPE travel or registration scholarships supporting attendance at both the Annual Meeting (ICPE 2021-2023, ISPE 2024-2025) and the Asian Conference (ACPE 2021–2025).

Award

ISPE-Asian Conference on Pharmacoepidemiology 15 Rising Star

PUBLICATION

Lee WJA, **Tsai DHT**, Lai ECC. Real-world safety of aflibercept 8 mg in neovascular age-related macular degeneration. *Naunyn-Schmiedeberg's Archives of Pharmacology*. 2026 Aug 11. doi: 10.1007/s00210-026-05793-w. Online ahead of print. (IF 4.0; Ranking PHARMACOLOGY & PHARMACY, 109/356)

Lee WJA, **Tsai DHT**, Cheng MCY, Lin YS, Lee CY, Shao SC, Lai ECC. Comparison of adverse renal events between ranibizumab and aflibercept in patients with diabetic macular oedema: A global network study. 2026 Jul;40(10):1446-1453. doi: 10.1038/s41433-026-04459-4. Epub 2026 Apr 22. (IF 4.4; Ranking OPHTHALMOLOGY, 17/98)

Tsai DHT, Yang ASH, Wong ZX, Chuang ATM, Cheng MCY, Shen CY, Shao SC, Lai ECC. Methodological considerations of suicide risk following antipsychotic therapy in treatment-resistant depression. *British Journal of Psychiatry*. 2026 Jun 25;1. doi: 10.1192/bjp.2026.10700. Online ahead of print. (IF 8.5; Ranking PSYCHIATRY, 12/293)

Ko HY, Au PCM, Cheng MCY, Cheung CL, Choi A, Hsieh MHC, Jeong HE, Lai ECC, Li BMH, Man KKC, Rassen JA, **Tsai DHT**, Wang SV, Wong ICK, Shin JY, Park S. Emulating Six Cardiovascular Outcome Trials of Antidiabetic Drugs in Individuals with Type 2 Diabetes: Analyses Based on Real-World Databases from Korea and Taiwan. *Clinical Pharmacology & Therapeutics*. 2025 Aug 17. doi: 10.1002/cpt.70027. (IF 4.9; Ranking PHARMACOLOGY & PHARMACY, 74/356)

Yang ASH, Fan Chiang HY, **Tsai DHT**, Chuang ATM, Lai ECC. Association Between Pneumonia Risk and Anticholinergic Burden Among Patients with Different Frailty Levels [Response to Letter]. *Clinical Epidemiology*. 2026 Apr 30;18:609824. doi: 10.2147/CLEP.S609824. (IF 4.3; Ranking PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH, 66/443)

Su PH, **Tsai DHT**, Hsieh MH, Vairaperumal T, Lai ECC, Liu PY. Hyperuricemia risk in bempedoic acid-treated hyperlipidemic patients. *Communications Medicine*. 2026 Apr 1. doi: 10.1038/s43856-026-01545-2. (IF 7.4; Ranking MEDICINE, RESEARCH & EXPERIMENTAL, 31/191)

Hsu HY, Chen KW, Lu HF, Chang SS, **Tsai DHT**, Lai ECC, Chang KC, Tsai FJ. Comparative Effectiveness of Clopidogrel vs. Potent P2Y12 Inhibitors in CYP2C19 Normal Metabolizers Following Percutaneous Coronary Intervention: A Real-World Cohort Study. *British Journal of Clinical Pharmacology*. 2026 Apr;92(4):1167-1176. doi: 10.1002/bcp.70373. Epub 2025 Nov 29. (IF 3.0; Ranking PHARMACOLOGY & PHARMACY, 169/356)

Chuang LH, **Tsai DHT**, Chan YH, Shao SC, Lai CC, Lai ECC. Trends in First-Line Glaucoma Treatment from 2013 to 2024: A Multi-institutional and Multinational Cohort Study. *Ophthalmology and Therapy*. 2026 Mar;15(3):1083-1094. doi: 10.1007/s40123-026-01327-y. Epub 2026 Feb 4. (IF 4.2; Ranking OPHTHALMOLOGY, 18/98)

Shao SC, **Tsai DHT**, Chuang ATM, Liu KH, Lai ECC. SGLT2 inhibitors, GLP-1 RAs, and DPP4 inhibitors and the risk of hypomagnesemia in type 2 diabetes: A target trial emulation. *PLOS Medicine*.

2026 Mar 6;23(3):e1004968. doi: 10.1371/journal.pmed.1004968. eCollection 2026 Mar. (IF 9.9; Ranking MEDICINE, GENERAL & INTERNAL, 16/336)

Wei SY, Li BMH, **Tsai DHT**, Hu HY, Lin SY, Lin SJ, Su CC, Pan CH, Lai ECC. Association between venlafaxine use and the risk of withdrawal from nonopioid substances: a nationwide, population-based study. *Harm Reduction Journal*. 2026 Mar 2. doi: 10.1186/s12954-026-01427-9. (IF 4.2; Ranking SUBSTANCE ABUSE, 5/61)

Liu CM, **Tsai DHT**, Tung HT, Lu ZH, Lai ECC, Liu CJ. Sodium-Glucose Cotransporter 2 Inhibitors Prevent Nephrolithiasis in Patients with Diabetes: A TriNetX-Based Real-World Global Comparison. *Kidney360*. 2026 Mar 1;7(3):633-641. doi: 10.34067/KID.0000000981. Epub 2025 Oct 20. (IF 3.6; Ranking UROLOGY & NEPHROLOGY, 28/134)

Lee WJA, **Tsai DHT**, Shao SC, Lai ECC. Intraocular inflammation incidence and real-world safety of intravitreal faricimab treatment across retinal indications. *Naunyn-Schmiedeberg's Archives of Pharmacology*. 2026 Mar;399(6):9267-9273. doi: 10.1007/s00210-025-04931-0. Epub 2026 Jan 20. (IF 4.0; Ranking PHARMACOLOGY & PHARMACY, 109/356)

Tsai DHT, Yang ASH, Wong, ZX, Chuang ATM, Cheng MCY, Shen CY, Shao SC, Lai ECC. Antipsychotic therapy and suicide risk in patients with treatment-resistant depression: target trial emulation framework study. *British Journal of Psychiatry*. 2026 Jan;228(1):37-45. doi: 10.1192/bjp.2024.283. Epub 2025 Apr 8. (IF 8.5; Ranking PSYCHIATRY, 12/293)

Chou TS, **Tsai DHT**, Shao SC, Lai ECC. SGLT-2 Inhibitor use and liver-related and mortality outcomes in patients with type 2 diabetes and compensated cirrhosis. *BMC Medicine*. 2026 Jan 12. doi: 10.1186/s12916-026-04629-x. (IF 8.7; Ranking MEDICINE, GENERAL & INTERNAL, 21/336)

Shao SC, **Tsai DHT**, Li XW, Lai ECC. Association Between Sodium-Glucose Cotransporter 2 Inhibitors and Risk of Inflammatory Bowel Disease in Patients With Type 2 Diabetes Mellitus. *Mayo Clinic Proceedings*. 2025 Nov;100(11):2020-2023. doi: 10.1016/j.mayocp.2025.07.007. Epub 2025 Sep 24. (IF 6.5; MEDICINE, GENERAL & INTERNAL, 29/336)

Hsieh CY, Shao SC, Sung SF, Hsieh MHC, **Tsai DHT**, Lin SJ, Lai ECC. Taiwan's National Health Insurance Research Database (NHIRD): in the Era of Artificial Intelligence, Causal Inference, and Data Security. *Clinical Epidemiology*. 2025 Nov 25;17:967–981. doi: 10.2147/CLEP.S553894. (IF 4.3; Ranking PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH, 66/443)

Yang ASH, Fan Chiang HY, **Tsai DHT**, Chuang ATM, Lai ECC. Association Between Pneumonia Risk and Anticholinergic Burden Among Patients with Different Frailty Levels. *Clinical Epidemiology*. 2025 Sep 30;17:787–796. doi: 10.2147/CLEP.S524645. (IF 4.3; Ranking PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH, 66/443)

Yang ASH, **Tsai DHT**^{*}, Chen LW, Cheng WM, Wang CC, Shao SC, Song WW, Kouhkamari MH, Huang WC, Bowditch S, Lai ECC. Epidemiology and Burden of Lennox-Gastaut Syndrome in Taiwan: A Retrospective Cohort Study. Risk Management and Healthcare Policy. 2025 Sep 20;18:3153-3166. doi: 10.2147/RMHP.S519367. (*contributed equally) (IF 2.6; HEALTH POLICY & SERVICES, 49/125)

Chuang ATM, **Tsai DHT**, Weng MY, Huang HK, Lai ECC. Effectiveness of JAK inhibitors in biologics-naïve patients with rheumatoid arthritis: a population-based study. Rheumatology. 2025 Aug 1;64(8):4668-4677. doi: 10.1093/rheumatology/keaf216. (IF 4.7; Ranking RHEUMATOLOGY, 12/58)

Wei SY, Li BMH, Hu HY, **Tsai DHT**, Lin SJ, Lin SY, Su CC, Pan CH, Lai ECC. Detection of hidden populations using illicit substances. Journal of Epidemiology and Community Health. 2025 Aug 8;79(9):719-725. doi: 10.1136/jech-2025-223903. (IF 3.4; Ranking PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH, 101/443)

Tsai DHT, Wu ICY, Chang LF, Lu MJH, Debnath B, Govender NP, Sharland M, Warris Adilia, Hsia Y, Ferreras-Antolin L. The burden of Neonatal Invasive Candidiasis in Low- and Middle-Income Countries: a systematic review and meta-analysis. Open Forum Infectious Diseases. 2025 Jun 11;12(7):ofaf329. doi: 10.1093/ofid/ofaf329. eCollection 2025 Jul. (IF 3.8; Ranking INFECTIOUS DISEASES, 41/141)

Lin SS^{*}, Tsai HH^{*}, **Tsai DHT**^{*}, Tsai CL, Itokazu N, Lin JG, Lai ECC, Lin HW, Hou YC. Prescription patterns of traditional Chinese medications and potential consequences in patients with new-onset cardiac or vascular-related diseases: a nationwide cohort study. BMC Complementary Medicine and Therapies. 2025 Jul 2;25(1):216. doi: 10.1186/s12906-025-04945-4. (*contributed equally) (IF 4.4; Ranking INTEGRATIVE & COMPLEMENTARY MEDICINE, 11/48)

Tsai DHT, Chuang ATM, Liu KH, Shao SC, Lai ECC. Sodium–glucose cotransporter 2 (SGLT2) inhibitors and risk of chronic kidney disease-mineral and bone disorders in patients with type 2 diabetes mellitus and stage 1–3 chronic kidney disease. CMAJ. 2025 Feb 23;197(7):E178-E189. doi: 10.1503/cmaj.240922. (IF 8.6; Ranking MEDICINE, GENERAL & INTERNAL, 23/336)

Lu KH, Hsieh CY, **Tsai DHT**, Lai ECC, Hsieh MT, Hsu WH, Lin KH. Association between dementia and left atrial appendage occlusion in patients with atrial fibrillation: A TriNetX-based retrospective cohort study with target trial emulation. Heart Rhythm O2. 2024 Nov 22;6(2):151-158. doi: 10.1016/j.hroo.2024.11.012. eCollection 2025 Feb. (IF 2.8; Ranking CARDIAC & CARDIOVASCULAR SYSTEMS, 101/237)

Hu JC, Shao SC, **Tsai DHT**, Chuang ATM, Liu KH, Lai ECC. Use of SGLT2 Inhibitors vs GLP-1 RAs and Anemia in Patients With Diabetes and CKD. JAMA Network Open. 2024 Mar 4;7(3):e240946. doi: 10.1001/jamanetworkopen.2024.0946. (IF 11.7; Ranking MEDICINE, GENERAL & INTERNAL, 12/336)

Tsai DHT, Harmon E, Goelen J, Barry HE, Chen LY, Hsia Y. Evaluating the Risk-Benefit Profile of Corticosteroid Therapy for COVID-19 Patients: A Scoping Review. *Pharmacy*. 2024 Aug 22;12(4):129. doi: 10.3390/pharmacy12040129. (IF 2.2; Ranking PHARMACOLOGY & PHARMACY, 231/356)

Tsai DHT, Bell JS, Abtahi S, Baak BN, Bazelier MT, Brauer R, Chan AYL, Chan EW, Chen H, Chui CSL, Cook S, Crystal S, Gandhi P, Hartikainen S, Ho FK, Hsu ST, Ilomäki J, Kim JH, Klungel OH, Koponen M, Lau WCY, Lau KK, Lum TYS, Luo H, Man KKC, Pell JP, Setoguchi S, Shao SC, Shen CY, Shin JY, Souverein PC, Tolppanen AM, Wei L, Wong ICK, Lai ECC. Cross-Regional Data Initiative for the Assessment and Development of Treatment for Neurological and Mental Disorders. *Clinical Epidemiology*. 2023 Dec 21;15:1241-1252. doi: 10.2147/CLEP.S426485. (IF 4.3; Ranking PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH, 66/443)

Huang WC, Yang ASH, **Tsai DHT**, Shao SC, Lin SJ, Lai ECC, Association between recently elevated anticholinergic burden and risk of acute cardiovascular events: A nationwide case- case-time-control study. *The BMJ*. 2023 Sep 27;382:e076045. doi: 10.1136/bmj-2023-076045. (IF 55.1; Ranking MEDICINE, GENERAL & INTERNAL, 5/336)

Chan AYL, Yuen ASC, **Tsai DHT**, Lau WCY, Jani YH, Hsia Y, Osborn DPJ, Hayes JF, Besag FMC, Lai ECC, Wei L, Taxis K, Wong ICK, Man KKC. Gabapentinoid consumption in 65 countries and regions from 2008 to 2018: a longitudinal trend study. *Nature Communications*. 2023 Aug 17;14(1):5005. doi: 10.1038/s41467-023-40637-8. (IF 18.1; Ranking MULTIDISCIPLINARY SCIENCES, 8/140)

O'Sullivan C, **Tsai DHT**, Wu ICY, Boselli E, Hughes C, Padmanabhan D, Hsia Y. Machine learning applications on neonatal sepsis treatment: a scoping review. *BMC Infectious Diseases*. 2023 Jun 29;23(1):441. doi: 10.1186/s12879-023-08409-3. (IF 3.2; Ranking INFECTIOUS DISEASES, 55/141)

Tsai DHT, Chang WH, Lin HW, Lin SJ, Shao SC, Lai ECC. Post-discharge use of antipsychotics in patients with hospital-acquired delirium and associated risk of mortality - A population-based nested case-control study. *Asian Journal of Psychiatry*. 2023 May;83:103533. doi: 10.1016/j.ajp.2023.103533. Epub 2023 Feb 24. (IF 4.9, Ranking PSYCHIATRY, 44/293)

Yao SH*, **Tsai HT***, Lin WL, Chen YC, Chou C, Lin HW. Predicting the serum digoxin concentrations of infants in the neonatal intensive care unit through an artificial neural network. *BMC Pediatrics*. 2019 Dec 27;19(1):517. doi: 10.1186/s12887-019-1895-7. (*contributed equally) (IF 2.3; Ranking PEDIATRICS, 55/190)

Oral presentations in International Conference

Tsai DHT. Clone-censor-weight (ACPE Educational Session). ISPE's 17th Asian Conference on Pharmacoepidemiology. University of Hong Kong. Cyberport.

Tsai DHT, Chuang ATM, Yang ASH, Lai ECC. Short-term risk of urinary retention following recent elevations in anticholinergic burden. ISPE's 17th Asian Conference on Pharmacoepidemiology. University of Hong Kong.

Tsai DHT, The Clone-Censor-Weight Approach: From Basic Principles to Its Transformation in Diverse Exposure and Outcome Scenarios. The 2025 ISPE Annual Meeting. Walter E. Washinton Convention Center.

Tsai DHT, Chuang ATM, Yang ASH, Lai ECC. Evaluation of Different Washout Periods for Identifying New Users. The 2025 ISPE Annual Meeting. Walter E. Washinton Convention Center.

Tsai DHT. Clone-censor-weight (ACPE Educational Session). ISPE's 16th Asian Conference on Pharmacoepidemiology. University of Tokyo.

Tsai DHT, Chuang ATM, Lai ECC. Association between Recently Elevated Anticholinergic Burden and Urinary Retention: A Case-case-time-control Study. ISPE's 16th Asian Conference on Pharmacoepidemiology. University of Tokyo.

Tsai DHT, Lai ECC, Hsia Y, Moore CE. Irrational Consumption of Ivermectin During the COVID-19 Pandemic: Data From 67 countries. ISPE's 16th Asian Conference on Pharmacoepidemiology. University of Tokyo.

Tsai DHT. Investigating the presence of time-related bias. 2024 Global Regulatory Science Academic Symposium. Sungkyunkwan University.

Tsai DHT, Chuang ATM, Lai ECC. Association between Metformin Use and Psychiatric Disorders in Patients with Diabetes. The 2024 ISPE Annual Meeting. Estrel Congress Center.

Tsai DHT. Clone-censor-weight (ACPE Educational Session). ISPE's 15th Asian Conference on Pharmacoepidemiology. Sheraton Grand Bangalore Hotel at Brigade Gateway.

Tsai DHT, Yang ASH, Moore CE, Lai ECC, Hsia Y. Changes in Antibiotic Prescribing Patterns in Taiwan during the COVID-19 pandemic. ISPE's 15th Asian Conference on Pharmacoepidemiology. Sheraton Grand Bangalore Hotel at Brigade Gateway.

Tsai DHT, Gamey L, Barry H, Hughes C, Lau WCY, Hsia Y. The 13-valent Pneumococcal Conjugate Vaccine in Reducing Childhood Hospitalised Invasive Pneumococcal Diseases. ISPE's 15th Asian Conference on Pharmacoepidemiology. Sheraton Grand Bangalore Hotel at Brigade Gateway.

Tsai DHT, Yang ASH, Wong ZX, ECC Lai. The Augmentation Therapy and Suicide Risk in Patients with Treatment-Resistant Depression Using Target Trial Emulation Framework. 39th International Conference on Pharmacoepidemiology. Halifax Convention Centre.

Tsai DHT, Wu ICY, Chang LF, Lu MJH, Debnath B, Warris A, Sharland M, Hsia Y, Ferreras-Antolin L (2023, May). Neonatal Invasive Candidiasis (NIC) In Low- And Middle-Income Countries (LMICs):

Burden of Disease and Case Fatality. The European Society for Paediatric Infectious Diseases 2023, Lisbon Congress Centre.

Tsai DHT, Yang ASH, Wong ZX, ECC Lai. (2022, Oct) The Suicide Risk of Augmentation Therapy in Patients with Treatment-resistant Depression. ISPE's 14th Asian Conference on Pharmacoepidemiology, College of Medicine, National Cheng Kung University.

OTHER TRAINING AND SKILLS

Computing: I am proficient in SAS, Stata, SPSS, and R, with extensive experience across the entire data pipeline, including data extraction, cleaning, analysis, and visualization. I conduct large-scale pharmacoepidemiologic studies and triangulated different study designs using the Taiwan National Health Insurance Database which includes data from over 20 million individuals. My programming work has supported complex study designs and advanced statistical analyses, many of which have been published in high-impact journals such as BMJ, Nature Communications, CMAJ, JAMA Network Open, PLOS Medicine, and BMC Medicine.

Clinical Pharmacist (Licensed in Taiwan; MoHW No. 045275): Nephrology-ward service with duties in antibiotic stewardship, medication reconciliation, renal pharmacotherapy optimization, therapeutic drug monitoring, adverse drug reaction prevention, and patient education within a multidisciplinary team.