

Weisi Chen

Data Analyst

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Brief Biography

I am a data analyst with a background in pharmacy, bringing a unique combination of domain knowledge and analytical expertise to complex health data projects.

I am highly disciplined, detail-oriented, and driven by a strong passion for reproducible research, statistical analysis, and data visualization. I am proficient in statistical software such as R and SAS, with extensive experience in data cleaning, analysis, visualization, and statistical modelling.

Over the years, I have worked extensively with large, linked health administrative datasets, gaining expertise in linked data platforms such as SURE, PLIDA, and NHDH. My experience spans nationwide datasets, including hospital admissions, emergency department records, Pharmaceutical Benefits Scheme (PBS) and Medicare Benefits Schedule (MBS) claims, and death registrations.

I am deeply committed to continuous learning and professional development, always eager to explore new packages, techniques, or skills that enhance my ability to analyze data effectively and deliver meaningful insights.

Skills

Big Data Management · R · SAS · Reproducible Research · Data Visualization · Statistical Modeling

Education

Sept 2021 – Mar 2023 The University of New South Wales M.S. Health Data Science
WAM: 88% (Dissertation: 91%)

Dissertation: Changes in atherosclerotic cardiovascular disease risk over time among people living with HIV

Mar 2015 – Mar 2019 The University of Sydney B.S. Pharmacy

Employment History

Research-focused Positions

April 2025 – Present Data Scientist / Research Officer, Sydney Pharmacy School, The University of Sydney
Key Project:
• Nationwide study mapping multimorbidity disease clusters in older Australians using large-scale linked health administrative datasets —**Lead Analyst**.

- Developed a comprehensive dementia cohort integrating hospital admissions, ED presentations, PBS, MBS, aged care, and death registrations.

Key Responsibilities:

- Conducted systematic literature reviews and drafted detailed analysis plans.
- Prepared analysis-ready datasets in SAS from large linked administrative data sources (National hospital admission, ED presentations, PBS, MBS, aged care and death registrations).
- Designed advanced visualizations and network clustering analyses using R (*igraph* package).
- **First author** on a manuscript; drafted abstracts and conference materials.
- Collaborated with investigators and research partners to ensure timely project delivery.

July 2023 – Mar 2025

Data Scientist, School of Population Health, The University of New South Wales

Key Projects:

1. *Aboriginal Community Controlled Ear Health Support System (ACCESS)* — **Lead Analyst.**
2. *Evaluation of Sustaining NSW Families (NSW Health)* — **Lead Analyst.**
3. *NSW Child E-Cohort Project* — Assisted in building a large-scale linked data platform integrating multiple datasets:
 - Perinatal Data Collection, Birth Registrations, Hospital Separations, ED Presentations.
 - Australian Early Development Census, Public School Enrolments, NA-PLAN.
 - Child Protection Reports, Out-of-Home Care Placements, Justice (Youth & Adult Corrections), Public Housing, Death Registrations.

Key Responsibilities:

- Critically reviewing the literature on epidemiological and statistical methods to inform the development of analysis plans.
- Drafted data management and analysis plans with research teams.
- Implementing the data management plan to prepare analysis-ready datasets from linked datasets, including data cleaning and manipulation, using SAS.
- Executing statistical analysis (e.g., logistic regression and inverse probability of treatment weighting), using R.
- Drafting scientific papers, protocols, and conference abstracts.
- Contributing to the project management of research projects to the highest scientific and ethical standards.
- Drafting applications and contributing to ongoing reporting to the relevant ethics committees and data custodians for research projects.
- Maintaining regular communication with project investigators and Aboriginal community organizations to ensure the program is delivered in a culturally appropriate manner.

Feb 2023 – Dec 2023 Data Scientist / Research Officer, School of Pharmacy, The University of Sydney (FTE 0.4)

Key Project:

• Multi-Agency Data Integration Project (MADIP): Investigated high-risk prescribing patterns in older adults with dementia using linked PBS and Census data. —**Lead Analyst.**

Key Responsibilities:

- Conducted literature reviews and developed research protocols and data management plans.
- Prepared and cleaned analysis datasets using SAS.
- Performed analyses (e.g. logistic regression) in R.
- Contributed to publications, abstracts, and reproducible research documentation.
- Collaborated with investigators and research partners to ensure timely project delivery.

Clinical-focused Positions

Mar 2021 – Dec 2023 Pharmacist in Charge (FTE 0.2), Bondi Junction Pharmacy, Sydney, NSW

Mar 2021 – Dec 2023 Pharmacist on Duty (FTE 0.4), Blooms the Chemist, Bondi Junction, Sydney, NSW

Mar 2020 – Sept 2020 Registered Pharmacist, Chemist Warehouse, Double Bay, Sydney, NSW

Dec 2018 – Mar 2020 Graduate Intern Pharmacist, Chemist Warehouse, Randwick, Sydney, NSW

Key Responsibilities:

- Dispensed medications safely using pharmacy software; reviewed patient histories.
- Counseled patients on prescriptions, OTC medications, and medical devices.
- Supervised and mentored pharmacy students and technicians.
- Prepared blister packs for elderly patients to optimize adherence.
- Performed blood pressure tests, provided counseling, and referred patients as needed.
- Collaborated with healthcare professionals to optimize patient outcomes.
- Reported adverse drug events (ADEs) and medication errors per regulations.

Research Interests

I am interested in ageing research and pharmacoepidemiology, and in advancing my expertise in statistical and analytical methods using large, linked health administrative datasets.

Publications

[Google Scholar Profile](#)

A. Peer-reviewed Journal Articles

1. Le, H. T., Lau, E. C. Y., **Chen, W.**, Lu, C. Y., Nguyen, T. A., Low, L.-F., Hilmer, S. N., Jeon, Y.-H., & Tan, E. C. K.** (2025) "Prevalence and Risk Factors for Psychotropic Medication Use in Older Adults in Australia: A Nationwide Data Linkage Study" *Drugs & Aging*. 42(7):755–769. DOI: [10.1007/s40266-025-01220-6](#)
2. Huynh, A. L. H., Wang, Y., Ma, L., Low, Y. C. L., **Chen, W.**, Fowler, C., Tan, E. C. K., Masters, C. L., Jin, L., Pan, Y., & the AIBL Research Group. (2024) "A comparison of an Australian observational longitudinal Alzheimer's Disease cohort to Community-Based Australian data." *Journal of Alzheimer S Disease*. 1–13. DOI: [10.3233/JAD-240241](#)
3. Lau, E. C. Y., **Chen, W.**, Lu, C. Y., Hilmer, S. N., Jeon, Y.-H., & Tan, E. C. K. (2024) "Antidementia and psychotropic drug use in older people with dementia in Australia: a national data linkage study" *Journal of the American Medical Directors Association*. 25 (11), 105237. DOI: [10.1016/j.jamda.2024.105237](#)
4. **Chen, W.**, Petoumenos, K., Somia, A., Edmiston, N., Chaiwarith, R., Woolley, I., Ross, J., Pujari, S., & Boettiger, D. C (2024) "Changes in atherosclerotic cardiovascular disease risk over time among people living with HIV" *Journal of Antimicrobial Chemotherapy*. 79(4), 897–902. DOI: [10.1093/jac/dkac049](#)

B. Working Papers

1. Falster, K., Pilkington, R., **Chen, W.**, Hanly, M., Montgomerie, A., Ahmed, T., Powell, M., Lingam, R., Cretikos, M., Newton, B., Thomson, C., Katz, I., & Lynch, J. (2024) "A sustained nurse home visiting program and child outcomes: a target trial emulation in Australia, 2018-2021" *Working paper*.
2. Falster, K., Pilkington, R., **Chen, W.**, Hanly, M., Montgomerie, A., Ahmed, T., Powell, M., Lingam, R., Cretikos, M., Newton, B., Thomson, C., Katz, I., & Lynch, J. (2024) "Characteristics of enrolment in a sustained nurse home visiting program among eligible mothers and families in Australia: a data linkage study, 2010-2021" *Working paper*.
3. Lau, E. C. Y., **Chen, W.**, Hilmer, S. N., Jeon, Y.-H., Lu, C. Y., Fujita, K., Wang & Tan, E. C. K. (2025) "High-risk geriatric prescribing in older people with and without dementia in Australia: a nationwide cross-sectional study" *Accepted in Journal of the American Medical Directors Association*.
4. **CHEN, W.**, Lu, C. Y., Hilmer, S. N., Gibson, A., Nassar, N., & Tan E. C. K (2025) "Multimorbidity clusters in the older Australian population: a nationwide cross-sectional data linkage study" *Working paper*.

C. Working Reports

1. Falster, K., **Chen, W.**, Hanly, M., Ahmed, T., Powell, M., Pilkington, R., Montgomerie, A., & Lynch, J. (2024) "Sustaining NSW Families Program Outcome evaluation technical report" *Working report*

D. Contributed Presentations

1. "Mapping multimorbidity clusters in older Australians using linked administrative health data", Tan, E. C. K (Presenter)., **Chen, W.**, Lu, C. Y., & Hilmer, S.. ASCEPT conference. Sydney. Dec 10, 2025.
2. "Emulation of a target trial of the Sustaining NSW Families Program versus usual care among an eligible population born 2018-2021: An evaluation of program outcomes using linked district and whole-population data", Falster, K (Presenter)., Pilkington, R., Lynch, J., **Chen, W.**, Hanly, M., Montgomerie A., Powell, M., & Ahmed T.. SNF Evaluation Advisory Committee. Sydney. Feb 13, 2025.
3. "Prevalence and risk factors for psychotropic medication dispensing in Australian older adults.", Le, T. H (Presenter)., Lau, E. C. Y., **Chen, W.**, Lu, C. Y., Nguyen, T. A., Low, L.-F., Hilmer, S. N., Jeon, Y.-H., & Tan, E. C. K.. ASCEPT conference. Sydney. Dec 01, 2024.
4. "Myringotomy tube (grommet) insertion procedures in a whole-population cohort of NSW Aboriginal children (birth-years 2002-2018), followed from 0 to age 2-18 years", Falster K (Presenter)., **Chen, W.**, Ahmed, T., Hanly, M., Gunasekera, H., DeLacy, J., Newman, J., Wright, D., Bailey, S., Banks, E., Craig, J., Teixeira-Pinto, A., Dickson, M., Kong, K., Howard, K., Purcell, A., Cutmore, M., Fernando P., Lingam, R., Douglas, M., Rattos, S., Woolfenden, S., & Sherwood J.. ACCESS Investigator meeting. Orange. Nov 20, 2024.
5. "Myringotomy tube (grommet) insertion procedures in a whole-population cohort of NSW Aboriginal children (birth-years 2002-2018), followed from 0 to age 2-18 years", Falster K (Presenter)., **Chen, W.**, Ahmed, T., & Hanly, M.. ACCESS Investigator meeting. Sydney. Feb 28, 2024.
6. "Factors associated with antipsychotic use in people with dementia in Australia.", Lau, E. C. Y (Presenter)., **Chen, W.**, Lu, C. Y., & Tan, E. C. K.. ASCEPT conference. Sydney. Nov 20, 2023.