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 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.

Professional Interests

Reproducible Research · Data Visualization · Statistical Modeling

Skills

Big Data Management · R · SAS

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

July 2023 – Present	**Data Scientist, Sydney Pharmacy School, The University of Sydney, Sydney, NSW**

Key Project:

• Mapping multimorbidity disease clusters in older Australians using nationwide linked health administrative datasets.
• Built a nationwide dementia cohort linking nationwide hospital admissions, ED presentations, PBS, aged care, and death registration data.

Key Responsibilities:

• Critically reviewed literature and drafted analysis plans.

• Prepared analysis-ready datasets using SAS from nationwide large linked health administrative datasets, including hospital admissions, ED presentations, PBS, aged care, and death registration data.
• Make data visualizations to guide analysis and perform network clustering (using the igraph package in R) for clustering analysis.
• Drafted manuscript, abstract, and prepared slides for conference presentation.
• Maintained regular communication with project investigators, and implemented feedback in a timely manner.

July 2023 – Mar 2025	**Data Scientist, School of Population Health, The University of New South Wales, Sydney, NSW**

Key Project:

1) Aboriginal Community Controlled Ear Health Support System (ACCESS).

2) Evaluation of Sustaining NSW Families (NSW Health).

3) Assisted in building the NSW Child E-Cohort Project Data Platform (Linkage 2), linking the below datasets:
- • Perinatal Data Collection
- • Birth Registrations
- • Hospital Separations
- • Emergency Department Presentations
- • Australian Early Development Census
- • Public School Enrolments
- • NAPLAN
- • Child Protection Reports
- • Out-of-Home Care Placements
- • Justice Data (Youth and Adult Corrections)
- • Public Housing Data
- • Death Registrations / Cause of Death

Key Responsibilities:

• Critically reviewing the literature on epidemiological and statistical methods to inform the development of analysis plans.
• Drafting data management and data analysis plans, with input from the research team.
• Implementing the data management plan to prepare analysis-ready datasets from linked datasets, including data cleaning and manipulation, using SAS.
• Performing data visualization and executing logistic regression and inverse probability of treatment weighting (IPTW), 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, Sydney, NSW (FTE 0.4)**

Key Project:

• Multi-Agency Data Integration Project (MADIP):

• Investigated high-risk prescribing in older adults using linked PBS and Census data.

Key Responsibilities:

• Critically reviewed exsiting literature and drafted research protocol and data management plan.
• Prepared analysis-ready datasets using SAS.
• Conducted logistic regression and developed models.
• Contributed to publications, abstracts, and reproducible documentation.

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 using pharmacy software while reviewing histories for safe and effective drug use.

• 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 hypertension counseling, and referred patients as needed.

• Collaborated with healthcare professionals to optimize patient outcomes.

• Reported adverse drug events (ADEs) and medication errors per regulatory guidelines.

Research Interests

I am interested in pharmacoepidemiology and expanding my knowledge of 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](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](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/dkae049

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. Le, T. H., 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. (2024) "Prevalence and risk factors for psychotropic medication use in older adults in Australia: A nationwide, cross-sectional study." *Under review*.

4. 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" *Under review*.

5. **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 prepared for NSW Health.*

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.. NA. NA. 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.