

# Pharmacy Department | 2024

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In 2024, Pharmacy Department staff contributed 40 presentations (papers or posters) at national and international conferences, and 30 publications (28 peer-reviewed journal papers and two commissioned reports). Twenty staff were co-authors on a publication. Once again, several staff were involved in presenting their first conference presentation on the national stage or their first publication. We had three PhD candidates in the department in 2024. [Publication date: February 2025, Addendum added April 2026]

## Research Report



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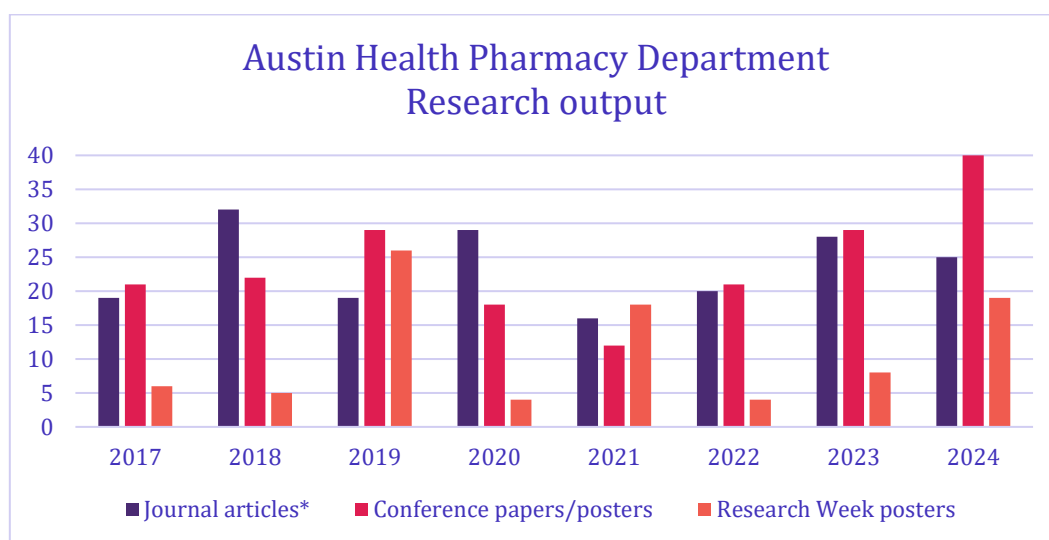
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## Overview

2024 was another strong year for research output from the Pharmacy Department. There were 25 new papers published in peer review journals (and 3 papers included in the 2023 report that were published online ahead of print), 2 commissioned reports prepared for the Australian Commission on Safety and Quality in Healthcare, and 40 papers or posters presented at conferences.

The Figure (below) highlights the Department's strong research track record and sustained commitment to quality improvement, with 188 peer reviewed journal papers (median 22.5 per year) and 192 conference papers and posters (median 21.5 per year) since 2017.



\* The count of journal articles excludes any that were counted in the previous year ('Online ahead of print')

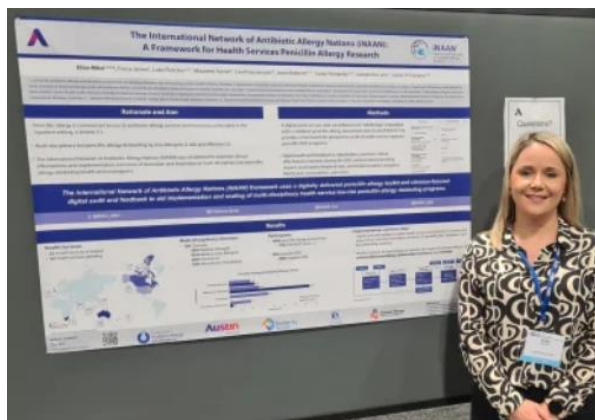
**Figure. Key measures of Pharmacy Department research output 2017-2024**

### Several staff presented on the international stage.

Jasmine Lau was invited to present her 2023 residency project at the Hong Kong Pharmacy Conference in February. Her presentation about the design and implementation of a Cardiac Hospital in The Home service was very well received. Links were made with Hong Kong colleagues, some of whom are planning to visit us in 2025.



Also in February, Elise Mitri attended the American Academy of Allergy Asthma and Immunology conference in Washington DC to present her antibiotic allergy de-labelling work that is part of her PhD program in the Department of Infectious Diseases, at Austin Health and Peter Doherty Institute for Infection and Immunity, University of Melbourne. Elise was joined by seven other members of the Austin Health Drug and Antibiotic Allergy Service team, to present new, leading research in the field of antibiotic allergy, and learn about the latest updates in immunology and allergy. Following the conference, Elise and the team presented at the Centre for Drug Safety and Immunology, led by Professor Elizabeth Phillips at Vanderbilt University Medical Centre (VUMC) in Nashville, Tennessee. This opportunity further strengthened research and clinical relationships with Immunology clinicians and Pharmacists at VUMC.



Brett Anderson, formerly of Austin Health, is currently undertaking his PhD through the University of Technology in Sydney, and Simone Taylor is one of his PhD supervisors. His thesis is focused on developing an evidence base for Australian hospital pharmacy technicians in clinical support roles. Brett was awarded an Allied Health travel grant from Melbourne Health to enable him to attend the American Society of Health-System Pharmacists Midyear Clinical Meeting in New Orleans and visit Simone's colleagues at University of Pittsburgh and University of Pittsburgh Medical Center.



## Other successes outside of the department

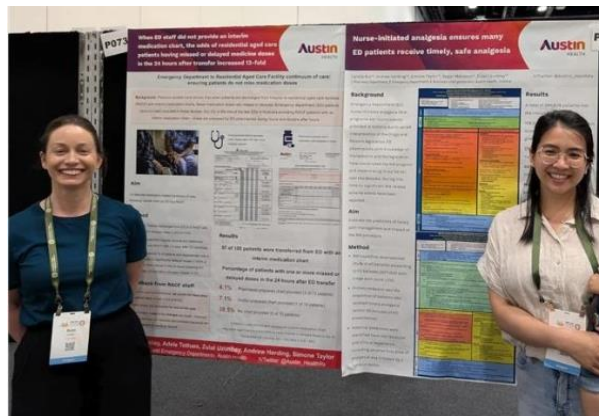
Several of our staff had the opportunity to attend the Medicines Management 2024 (MM2024) conference in Adelaide and present the research and innovations. Elise Mitri was an invited speaker and presented her research on multidisciplinary antibiotic allergy delabelling programs in Australia and internationally. Parnaz Aminian, Zulal Uzunbay and Liz Su delivered oral presentations about consumer pain management education, provision of interim medication administration charts in the emergency department and deprescribing in Aged Care, respectively. Poster presentations demonstrated the breadth of work undertaken across the department, including in infectious diseases, general medicine, emergency medicine, intensive care, Better@Home, liver transplant unit and pharmacogenomics. The work stemming from four of our Intern Foundation Program projects was presented at MM2024, and Elise Mitri was recognized as Fellow of Advanced Pharmacy Australia.



Left: New Fellows of Advanced Pharmacy Australia, including Elise Mitri.

Right: Delegates from the Pharmacy Department at MM2024.

Calista Bui, Ruth Colley and Simone Taylor presented posters at the Australasian College of Emergency Medicine Annual Scientific Meeting in Adelaide. There was a strong ED pharmacist contingent from around Australia. One poster was focused on the outcomes of our well-established nurse-initiated analgesia program. Several emergency departments were particularly interested in our outcomes data related to providing an interim medication administration chart to patients who are returning to Aged Care Facilities with medication regimen changes.



Above: Ruth Colley and Calista Bui at the ACEM meeting in Adelaide.

## Successes within Austin Health

Research Week was held earlier than previously and was done a little differently in 2024. The Cochrane Colloquium poster format was encouraged, and these were printed on A3 pages. Rather than having rooms of A0 posters on boards, poster authors were encouraged to join in the ONJ collaboration space. A microphone was shared around the space with authors given the opportunity to give an ‘elevator pitch’ about their project and its findings. This was a much more interactive session than in previous years...and there were significant savings in the creation of posters - financial and environmental.

Several staff were invited to deliver an oral presentation at Research Week about their work. Simone Taylor presented an update on the Ramadan project, which won the Consumer Partnership Award in 2023. This was a reminder that projects do not come to an end after prizes are awarded.

Two projects were shortlisted for the Quality Improvement Award: Karen Urbancic presented on the OASSIS study (Oncology antimicrobial stewardship: safe intravenous-to-oral switch and antimicrobial optimisation) and Suzanne El-Naggar presented for the Medicine Optimisation Service and the Aged Care team about the DO-IT Deprescribing project. The DO-IT project was awarded second prize.

Dhineeli Perera presented on the “Do no harm” project, about the long-term outcomes of a collaborative Antimicrobial Stewardship program for spinal cord injury patients; this project was short listed for the Allied Health Research Award.



Left: Karen Urbancic presenting the OASSIS study; Right: The DO-IT project team



Left: Gina McLachlan giving her project ‘elevator pitch’; Right: James Ford reviewing posters

## Intern and Honours student projects

Seven Intern Foundation Program projects, two RMIT Honours student group projects and a Monash University Inquiry student group project were supported by the Pharmacy Department in 2024. These projects have generated valuable pilot data for future research. The two RMIT projects will progress to publication in 2025 – one focused on risk factors for euglycaemic ketoacidosis in patients taking SGLT2 inhibitors and the other focused on availability of end-of-life medicines in the community.

## Research capacity and training

In 2024, several of our pharmacists involved in quality improvement and research joined our interns to undertake the *Level 1 Quality Improvement training*. Much of the work that we undertake within our department is quality improvement in nature, but we seek to undertake this within a research framework. This approach ensures a methodical process, where issues such as data management and analysis are considered prior to projects commencing. When prior Human Research and Ethics approval is achieved, the work can be presented externally and published in peer reviewed journals. In keeping with this overlap between quality improvement and research, the training emphasised a planned and thoughtful approach, setting SMART goals and discussed ways to present data. This was a fun, team building exercise too!



Left: Isabella Solano and Prasanna Baleswaran designing their interventions (paper plane designs), taking measurements and then refining their designs; Right: Helen Allsep, Phung To, Prasanna Baleswaran and team.

A *Pharmacy Department Research Toolkit SharePoint* page was also developed this year, that brings together a range of internal and external resources. It includes links to our annual research reports and Austin Health Research Online repository, training resources, analysis software and data management platforms, ethics processes and information about presenting and publishing.



## LOOKING FORWARD

Given that 2024 was a busy year for conference presentations, and in accordance with the typical research cycle, 2025 promises to be a busy year of manuscript writing towards publication. Work has begun on several new projects with a strong consumer co-design focus. We are also continuing to explore electronic platforms for brainstorming, maintaining a repository of project ideas and tracking project progress from the range of project and research active groups across our department, including our Quality Use of Medicines team and Medicines Optimisation Service.

A/Prof Simone Taylor  
Senior Pharmacist – Emergency Medicine and Research

A/Prof Rohan Elliott  
Senior Pharmacist – Aged Care, Poisons and Research

February 2025

## Publications

There were 30 publications in 2024, comprising 28 peer reviewed journal articles and 2 commissioned reports. *NB. 3 journal articles listed below were also included in the 2023 Annual Report as 'online ahead of print' publications (indicated with an asterix\*); hence there were a total of 25 new peer reviewed journal articles in 2024.*

### 1. QUALITY USE OF MEDICINES

#### Aged Care

Leung, MTY, Turner JP, Marquina C, Ilomaki J, **Tran T**, Bell SJ. Trajectories of oral bisphosphonate use after hip fractures: a population-based cohort study. *Osteoporosis International* 2024; 35:669-678. doi: [10.1007/s00198-023-06974-6](https://doi.org/10.1007/s00198-023-06974-6).

#### Emergency Medicine

D'lima J, **Taylor SE**, **Mitri EA**, **Harding AM**, Lai J, Manias E. Assessment of inter-rater reliability of screening tools to identify patients at risk of medication-related problems across the emergency department continuum of care. *Australasian Emergency Care* 2024; 27: 136-141. <https://doi.org/10.1016/j.aucec.2023.10.005> \*

#### Infectious Diseases

Hannah R, **Mitri E**, Katelaris CH, O'Hern J, Avent M, Valoppi G, et al. Adult penicillin allergy programmes in Australian hospitals: a practical guide from the National Antibiotic Allergy Network. *Internal Medicine Journal* 2024; 54(11): 1883-1893. doi: [10.1111/imj.16543](https://doi.org/10.1111/imj.16543).

Drummond K, Vogrin S, Lambros B, Trubiano JA, **Mitri E**. Effectiveness of direct delabelling of allergy labels in type A adverse drug reactions to penicillin: a multicentre hospitalwide prospective cohort study. *J Antimicrob Chemother* 2024; 79(10): 2640-2644. doi: [10.1093/jac/dkae270](https://doi.org/10.1093/jac/dkae270).

Lim A, **Khumra S**, Dalley A, **Bubb G**, Chien J, Kong DCM. Recognizing the opportunity to directly de-label no-risk penicillin allergies in community pharmacy: a mystery shopper experience. *International Journal of Pharmacy Practice* 2024; 32(4): 267-273. doi: [doi.org/10.1093/ijpp/riae020](https://doi.org/10.1093/ijpp/riae020)

Rose MT, **Mitri EA**, Vogrin S, Holmes NE, Chua KYL, Slavin MA, Trubiano JA. Durability of penicillin allergy delabeling and post-testing penicillin utilization in adults with immune compromise. *J Allergy Clin Immunol Pract* 2024; 12(7): 1928-1930.e1. doi: [10.1016/j.jaip.2024.03.047](https://doi.org/10.1016/j.jaip.2024.03.047).

Cox F, **Mitri E**, Trubiano JA. The Death of Desensitization-Delabeling the Destroyer [Research Letter]. *Open Forum Infect Dis* 2024; 11(3): ofae109. doi: [10.1093/ofid/ofae109](https://doi.org/10.1093/ofid/ofae109).

**Mitri E**, Reynolds G, Hornung CJ, Trubiano JA. Low-risk penicillin allergy delabeling: a scoping review of direct oral challenge practice, implementation, and multi-disciplinary approaches. *Expert Rev Anti Infect Ther* 2024; 22(1-3): 59-69. doi: [10.1080/14787210.2023.2296068](https://doi.org/10.1080/14787210.2023.2296068).

**Mitri E**, Reynolds G, Hornung C, Trubiano J. Low-risk penicillin allergy delabeling: a scoping review of direct oral challenge practice, implementation, and multi-disciplinary approaches. *Expert Review of Anti-infective Therapy* 2024; 22: 56-69. <https://doi.org/10.1080/14787210.2023.2296068> \*

**Urbancic KF**, Kong DCM, Johnson PDR, Yong MK, Slavin MA, Thursky K. Antifungal stewardship in Australian hospitals: defining the scope and future targets. *Internal Medicine Journal*. Online ahead of print 01 December 2024. [doi.org/10.1111/imj.16571](https://doi.org/10.1111/imj.16571)

**Mitri E**, Vogrin S, Chua KYL, Copaescu A, Waldron J, Cox F, **Devchand M**, Hall R, et al. The long-term sustainability of a pharmacist-led antimicrobial stewardship penicillin allergy delabelling ward round: a prospective cohort study. *CMI Communications*. Online ahead of print 16 December 2024. [doi.org/10.1016/j.cmicom.2024.105055](https://doi.org/10.1016/j.cmicom.2024.105055).

### Inflammatory bowel disease

**Hilley P**, Wong D, De Cruz P. How does an integrated pharmacist add value in the management of inflammatory bowel disease in the era of values-based healthcare? *Inflammatory Bowel Disease*. Online ahead of print 29 Aug 2024. [doi: 10.1093/ibd/izae196](https://doi.org/10.1093/ibd/izae196)

Little RD, McKenzie J, Srinivasan A, **Hilley P**, Gilmore RB, Chee D, et al. Switching from Dose-Intensified intravenous to SubCutaneoUS infliximab in Inflammatory Bowel Disease (DISCUS-IBD): protocol for a multicentre randomised controlled trial. *BMJ Open* 2024; 14(7): e081787. [doi: 10.1136/bmjopen-2023-081787](https://doi.org/10.1136/bmjopen-2023-081787).

Con D, **Hilley P**, Chin S, Corte C, Hafeez B, Testro A, De Cruz P, Choy M, Srinivasan A. Safety and effectiveness of Janus Kinase inhibitors in the management of inflammatory bowel disease following liver transplantation. *J Crohns Colitis* 2024; 18: 1505-1509. [doi: 10.1093/ecco-jcc/jjae039](https://doi.org/10.1093/ecco-jcc/jjae039).

**Hilley P**, Wong D, Ma R, Peterson A, De Cruz P. Transitioning patients from intravenous to subcutaneous infliximab and vedolizumab for inflammatory bowel disease: what is the opportunity cost of improving access to healthcare? *Internal Medicine Journal* 2024; 54(6): 970-979. [doi: 10.1111/imj.16311](https://doi.org/10.1111/imj.16311)

### Oncology

Tong E, Edwards G, Hua P, Mitra B, Van Dyk E, Yip G, Coutsouvelis J, **Siderov J**, et al. Implementation of partnered pharmacist medication charting (PPMC) in haematology and oncology inpatients. *Journal of Oncology Pharmacy Practice* 2024; 30(4): 636-641. <https://doi.org/10.1177/1078155223118046> \*

## 2. MEDICATION SAFETY AND PHARMACOVIGILANCE

**Hormiz R, Stanley B, Elliott RA**. Medication incidents at supported disability accommodation (group homes) in Victoria, Australia: a retrospective audit of calls to a poisons information centre. *Australian Health Review*. Online ahead of print 16 December 2024. <https://doi.org/10.1071/AH24221>

Leung, MTY, Turner JP, Marquina C, Ilomaki J, **Tran T**, Bykov K, Bell SJ. Gabapentinoids and risk of hip fracture. *JAMA Network Open* 2024; 7(11): e2444488. [doi: 10.1001/jamanetworkopen.2024.44488](https://doi.org/10.1001/jamanetworkopen.2024.44488).

### 3. PHARMACY SERVICE DESIGN AND DELIVERY (HEALTH SERVICES RESEARCH)

**Elliott RA**, Angley M, Criddle DT, Emadi F, Liu S, Penm J. Achieving safe medication management during transitions of care from hospital: time for a stewardship approach [Editorial]. *Australian Prescriber* 2024; 47(4): 106-108. [doi: 10.18773/austprescr.2024.034](https://doi.org/10.18773/austprescr.2024.034).

**Harris D, Ho L, Taylor S**. Impact of medicine shortages on hospital practice: role of a multidisciplinary medicine shortages team. *International Journal of Clinical Pharmacy* 2024; 46: 1563–1569. [doi.org/10.1007/s11096-024-01772-4](https://doi.org/10.1007/s11096-024-01772-4).

Emadi F, Liu S, Yiu CH, Baysari M, [...], **Elliott R**<sup>^</sup>, Penm J<sup>^</sup>. Strategies to facilitate safer medication management at transitions of care. Evidence Briefing on Interventions Supporting Safer Transitions of Care. Sydney: *Australian Commission on Safety and Quality in Health Care*; 2024. <sup>^</sup>co-senior author <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/evidence-briefing-strategies-facilitate-safer-medication-management-transitions-care>

Emadi F, Liu S, Yiu CH, Baysari M, [...], **Elliott R**<sup>^</sup>, Penm J<sup>^</sup>. Digital approaches that can be employed to facilitate safe medication management at transitions of care. Evidence Briefing on Interventions Supporting Safe Transitions of Care. Sydney: *Australian Commission on Safety and Quality in Health Care*; 2024. <sup>^</sup>co-senior author <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/evidence-briefing-digital-approaches-facilitate-safer-medication-management-transitions-care>


### 4. TOXICOLOGY

**O’Shea N, Elliott RA**. Rise in paracetamol therapeutic errors in the community during the COVID-19 pandemic [Research letter]. *Journal of Pharmacy Practice and Research* 2024; 54: 436-438. [doi.org/10.1002/jppr.1936](https://doi.org/10.1002/jppr.1936)

**White J, Elliott RA**. A 10-year retrospective review of exposures to volatile nitrites reported to the Victorian Poisons Information Centre. *Clinical Toxicology*. Online ahead of print 11 November 2024. [doi.org/10.1080/15563650.2024.2423832](https://doi.org/10.1080/15563650.2024.2423832)

Buckley NA, Noghrehchi F, **Elliott RA**, Wylie C, Merwood N, Bengner L, et al. Self-poisoning in young Australians: the impact of COVID-19 and recent trends following easing of restrictions. *Australian & New Zealand Journal of Psychiatry*. Online ahead of print 18 November 2024 [doi.org/10.1177/00048674241291321](https://doi.org/10.1177/00048674241291321)

Dempsey R, **Zia K, Elliott RA**, Noghrehchi F, Wong A. Trends in e-cigarette exposures reported to an Australian poisons information centre between 2017 and 2023 with a reflection on legislative changes in 2021. *International Journal of Drug Policy*. Online ahead of print 18 December 2024. <https://doi.org/10.1016/j.drugpo.2024.104684>



**Syrjanen R**, Dutch M, **Greene SL**, Lyons T, McKinnon G, Gerostamoulos D, Schumann JL; EDNAV Project Research Group. Novel harm reduction measures at music festivals in Australia: Pilot implementation of the Emerging Drugs Network of Australia-Victoria toxicosurveillance methodology. *Drug Alcohol Rev* 2024; 43(7): 2045-2054. doi: [10.1111/dar.13922](https://doi.org/10.1111/dar.13922)

**Syrjanen R**, Schumann JL, Castle JW, Sharp L, Griffiths A, Blakey K, [...], **Greene SL**. Protonitazene detection in two cases of opioid toxicity following the use of tetrahydrocannabinol vape products in Australia. *Clinical Toxicology* 2024; 62(8): 539-541. doi: [10.1080/15563650.2024.2383692](https://doi.org/10.1080/15563650.2024.2383692)

Greene SL, **Syrjanen R**, Hodgson SE, Abouchedid R, Schumann J. Co-exposure to gamma-hydroxybutyrate is associated with attenuated neuropsychiatric and stimulant effects of metamfetamine. *Clinical Toxicology* 2024; 62(5): 303-313. doi: [10.1080/15563650.2024.2353265](https://doi.org/10.1080/15563650.2024.2353265)

Castle JW, **Syrjanen R**, Di Rago M, Schumann JL, Greene SL, Glowacki LL, Gerostamoulos D. Identification of clobromazolam in Australian emergency department intoxications using data-independent high-resolution mass spectrometry and the HighResNPS.com database. *Journal of Analytical Toxicology* 2024; 48(5): 273-280. doi: [10.1093/jat/bkae012](https://doi.org/10.1093/jat/bkae012)

# Conference/Seminar Oral Presentations and Posters

Research papers and posters, and continuing professional development lectures/workshops, presented externally in 2024.

## 1. QUALITY USE OF MEDICINES

### Aged Care

**Su E, McMaster C, El-Naggar S, Mouchaileh N, Vengurlekar G, Elliott R, Aminian P, Frauman A, Liew D.** Partnered pharmacist medication deprescribing: a collaborative approach to deprescribing sedatives and anticholinergics. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024 (Nov 14-16).*

### Emergency Medicine

**Bui C, Harding A, Taylor S, Mansouri N, Uzunbay Z.** Nurse initiated analgesia ensures many patients receive timely, safe analgesia.

- *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024 (Nov 14-16).*
- *Australian College of Emergency Medicine (ACEM) Annual Scientific Meeting, Adelaide 2024 (Nov 24-28).*

**Uzunbay Z, Colley R, Totham A, Taylor S, Harding A.** Emergency department to residential aged care facility continuum of care: ensuring patients do not miss medication doses.

- *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024 (Nov 14-16).*
- *Australian College of Emergency Medicine (ACEM) Annual Scientific Meeting, Adelaide 2024 (Nov 24-28).*

### Infectious Diseases

**Mitri E, Narayanasamy S, Holmes NE, Ierano C, Roberts J, Fernando S, Trubiano JA.** RECONCILE: An Australian survey of multidisciplinary low-risk penicillin allergy delabelling [invited oral presentation]. *Australasian College for Infection Prevention and Control Conference, Melbourne, 2024 (Nov 17-20).*

**Khumra S, Batrouney A, Vogrin S, Lowe S, Jones N, Trubiano J, Reynolds G.** Impact of early review of intravenous antimicrobial therapy for general medicine inpatients. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024 (Nov 14-16).*

**Mitri E.** Debugging delabelling: Implementation of digitally delivered multi-disciplinary antibiotic allergy health service programs [invited oral presentation]. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024 (Nov 14-16).*

**Mitri E.** The missing gaps in inpatient penicillin allergy delabelling: practice changing data from the International Network of Antibiotic Allergy Nations. *Drug Hypersensitivity Symposium, Melbourne 2024 (Oct 25-27).*

**Mitri E**, Vogrin S, Fletcher L, James F, Turner M, Ierano C, Roberts J, Fernando S, De Luca J, Holmes N, Trubiano JA. The International Network of Antibiotic Allergy Nations (iNAAN): Implementation of multidisciplinary penicillin allergy delabelling health service programs. *Australasian Society for Infectious Diseases (ASID) Clinical Research Network Meeting*, Gold Coast 2024 (Jul 27).

**Mitri E**, Vogrin S, Copaescu A, Waldron J, Cox F, **Devchand M**, Chua KYL, Hall R, McInnes K, Reynolds GK, Holmes NE, Trubiano JA. The long-term impact of a pharmacist-led antimicrobial stewardship penicillin allergy delabelling ward round. *American Academy of Asthma, Allergy and Immunology Annual Meeting*; Washington 2024 (Feb 23-26).

**Mitri E**, James F, Fletcher L, Turner M, Ierano C, Roberts J, Fernando S, De Luca J, Trubiano JA. The National Inpatient Penicillin Allergy Database: a framework for health services penicillin allergy research. *American Academy of Asthma, Allergy and Immunology Annual Meeting*; Washington 2024 (Feb 23-26).

**Mitri E**, Waldron J, Cox F, Chua KYL, Hall R, McInnes K, Reynolds G, Holmes NE, Trubiano JA. Direct oral challenge for low-risk sulfonamide allergy: safety and antimicrobial stewardship impacts in hospitalised patients. *American Academy of Asthma, Allergy and Immunology (AAAAI) Annual Meeting*; Washington 2024 (Feb 23-26).

### Inflammatory Bowel Disease

Chin S, Con D, Choy M, Corte C, **Hilley P**, Testro A, Srinivasan A. Safety of biologic therapies for the management of inflammatory bowel disease when used in combination with anti-rejection therapy in liver transplant recipients. *Australian Gastroenterology Week*, Gastroenterological Society of Australia 2024 (Sep 14-16).

### Oncology

Boyce A, Seine A, O'Byren J, Green S, Hudson J, Thong P, Reiche L, **Siderov J**, et al. Pre-care and after-care for the treatment of actinic keratosis: an Australian and New Zealand perspective. *Clinical Oncology Society of Australia's 51<sup>st</sup> Annual Scientific Meeting*, Gold Coast 2024 (Nov 13-15).

## 2. MEDICATION SAFETY AND PHARMACOVIGILANCE

**Aminian P, Su E, Gandabhai S**, McMaster C, Frauman A, Liew D. Curtailing risky trends – a tertiary hospital's approach to addressing concomitant oxycodone and tapentadol prescribing. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference*, Adelaide, 2024 (Nov 14-16).

**Lam A, Kullar N, Tibb I, Elliott R, Taylor S, Ting C**. Hospital pharmacist interventions on hospital discharge prescriptions: prospective observational study to inform electronic prescription workflows. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference*, Adelaide, 2024 (Nov 14-16).

**Ly TM, Castello J, Taylor S, Lowe K**. Adherence to national heart failure medication prescribing guidelines: an observational study. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference*, Adelaide, 2024 (Nov 14-16).

**McLachlan G**, Vaz K, **Versace M**, Sivagnanasundram S, Pang L, Fisher S, Kuo S, Ciccirelli L, Thompson B, Christie M, Atkinson C, Bentley S, Montgomery J, O’Keefe M, Clarke A, James P. Pharmacogenomic influences on tacrolimus dose at liver transplant discharge: a retrospective audit. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024* (Nov 14-16).

**Meaklim A, Keith C**, Chua K, Frauman A. Adverse drug reactions: focus on drug-induced anaphylaxis. *Drug Hypersensitivity Symposium 2024, Melbourne* (Oct 25 – 27).

**Tyedin A**. Dose Administration Aids: helpful or harmful? *Pharmaceutical Society of Australia National Conference, Sydney 2024* (Aug 2-4).

**Tyedin A**. An analysis of medication infusion orders post-digitalisation in an intensive care unit. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024* (Nov 14-16).

Sivagnanasundram S, Bentley S, Pang L, Vaz K, Kuo S, Fisher S, **McLachlan G**, Clarke A, Montgomery J, O’Keefe M, Ciccirelli L, Atkinson C, Christie M, Thompson B, James P. The clinical utility of low pass whole genome sequencing (WGS) in the treatment of renal and liver transplant patients. *Human Genetics Society of Australasia conference, Gold Coast, 2024* (10-13 August).

Bentley S, Sivagnanasundram S, Montgomery J, McLean H, D Conza R, Britt E, Bowley S, Silver J, Lee J, Stevens M, Pang L, Vaz K, Kuo S, Fisher S, **McLachlan G**, Clarke A, O’Keefe M, Zino M, Nouné C, Ciccirelli L, Atkinson C, Christie M, Thompson B, James P. Empowering combined pharmacogenomic and monogenic disease analysis using a multi-platform approach. *Human Genetics Society of Australasia conference, Gold Coast, 2024* (10-13 August).

Krogh L, Liu S, Carter S, Moles R, Penm J, [...], **Elliott R**. Exploring methods for identification of medication-related hospital admission/readmission: a systematic review. *82nd FIP World Congress of Pharmacy and Pharmaceutical Sciences 2024* (Sep 1-4), Cape Town, South Africa

Krogh L, Liu S, Carter S, Moles R, Penm J, [...], **Elliott R**. Pharmacie-Rural: Validation of a medication related readmission risk tool. *82nd FIP World Congress of Pharmacy and Pharmaceutical Sciences 2024* (Sep 1-4), Cape Town, South Africa

Yeung K, Emadi F, Liu S, [...], Angley M, **Elliott R**, Penm J. Risk prediction models focusing on medication management for preventing hospital readmission or ED revisits: a systematic review. *FIP Conference 82nd FIP World Congress of Pharmacy and Pharmaceutical Sciences 2024* (Sep 1-4), Cape Town, South Africa.

### 3. PHARMACY SERVICE DESIGN AND DELIVERY (HEALTH SERVICES RESEARCH)

Anderson B, Travaglia J, **Taylor S**, Catanzariti R, Pont P. Prevalence of clinical pharmacy technician roles and their desired training frameworks: a sequential explanatory mixed methods study. *American Society of Health-System Pharmacists Midyear Clinical Meeting, New Orleans, USA, 2024* (Dec 7-12).

**Aminian P, Su E**, Phillips M, Pontonio F, Delahunt M, Bruce P, McMaster C, Frauman A, Liew D. Focus on function: redesigning post-operative pain management education for consumers. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024* (Nov 14-16).

**Aminian P, Su E, Gandabhai S,** Charlton S, McMaster C, Frauman A, Liew D. Communicating for safety - supporting opioid continuity for our palliative care consumers transitioning home. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024* (Nov 14-16).

**Shiu A, Tran T, Ho L.** Evaluation of a comprehensive pharmacy service delivered to Better at Home subacute patients. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024* (Nov 14-16).

Haque B, Herath S, Yeung K, Penm J, [...], **Elliott R.** Clinicians' views on the culturally safe implementation of a transition of care stewardship service for First Nations patients on discharge: a qualitative Study. *Western NSW Health Research Network Research Symposium, Dubbo 2024* (Nov 18-19).

Herath S, Haque B, Yeung K, Penm J,[...], **Elliott R.** A formative evaluation of the implementation of a medication-centred discharge service in rural Australia: a qualitative study. *Western NSW Health Research Network Research Symposium, Dubbo 2024* (Nov 18-19).

Anderson B, Dionisiou A, Cam SL, Oates G, Abdullahi H, **Taylor S,** Catanzariti R, Lisa Pont L. Technicians learning medication history taking via e-learning. A multisite pre/post accuracy evaluation. *Medicines Management 2024, Advanced Pharmacy Australia (formerly SHPA) National Conference, Adelaide, 2024* (Nov 14-16).

**Ho L,** Sullivan A, Horrigan M, Edwards S, Polidori L, Blackler K, Campbell M. Multidisciplinary care to enhance recovery in adult tonsillectomy patients. A new role for pharmacist consultation through Hospital in the Home. *HITH Society of Australasia Annual Scientific Meeting, Sydney, 2024* (Nov 13-15).

**Nguyen S, Lau J, Tran T,** Horrigan M, Yeoh J, Martin L. Designing and implementing a virtual cardiac hospital in the home pharmacy service – an innovative approach [*invited oral paper presented by J Lau*]. *Hong Kong Pharmacy Conference 2024* (Feb 24-25).

#### 4. TOXICOLOGY

Buckley N, Noghrehchi F, **Elliott R,** Wylie C, Merwood N, Bengler L, et al. Self-poisoning in young Australians: the impact of COVID-19 and recent trends following easing of restrictions. *TAPNA (Toxicology and Poisons Network Australasia) Annual Scientific Meeting, Melbourne 2024* (1-3 May)

**Heiner M.** Tox is the new black. *TAPNA (Toxicology and Poisons Network Australasia) Annual Scientific Meeting, Melbourne 2024* (1-3 May)

**O'Shea N.** From sirens to solution: a collaborative approach between ambulance services and poisons information centres to rationalize pre-hospital care for the poisoned patient. *TAPNA (Toxicology and Poisons Network Australasia) Annual Scientific Meeting, Melbourne 2024* (1-3 May)

**White J, Elliott R.** A 10 year retrospective review of exposure to volatile nitrites reported to the Victorian Poisons Information Centre. *TAPNA (Toxicology and Poisons Network Australasia) Annual Scientific Meeting, Melbourne 2024* (1-3 May)

## AUSTIN HEALTH RESEARCH WEEK POSTERS

The following posters were presented at the **Austin Health Research Fest 29 July-1 August 2024**:

**Aminian P, Su E, Gandabhai S, Charlton S, McMaster C, Frauman A, Liew D.** Communicating for safety – supporting opioid continuity for our palliative care consumers transitioning home.

**Aminian P, Su E, Phillips M, Pontonio F, Delahunt M, Bruce P, McMaster C, Frauman A, Liew D.** Empowering consumers to improve pain management – linking opioid use and functional recovery for post-operative patients.

**Bui C, Harding A, Mansouri N, Taylor S, Uzunbay Z.** Emergency Department acute pain management and impact of the pharmacist-led nurse-initiated analgesia program.

**Colley R, Totham A, Uzunbay Z, Harding A, Simone Taylor.** Emergency Department to Residential Aged Care Facility continuum of care: ensuring patients do not miss medication doses.

Drummond K, Vogrin S, Lambros B, Trubiano J, **Mitri E.** Effectiveness of Direct Delabel of Allergy labels in Type A adverse drug reactions (ADRs) to penicillin: a multicentre hospital-wide prospective cohort study.

**Ho L, Than J, Allsep H, Lam A, Ly TM, Tyedin A.** Audit of melatonin use on acute surgical and medical wards at Austin Health.

**Khumra S, Batrouney A, Vogrin S, Lowe S, Jones N, Trubiano J, Reynolds G.** Early antimicrobial stewardship for General Medicine patients (EMERGE): Impact of early review of intravenous antimicrobial therapy for general medicine inpatients.

**Mclachlan G, Vaz K, Versace M, James P, Sivagnanasundrum S, Pang L, Fisher S, Kuo S, Ciccirelli L, Thompson B, Christie M, Atkinson C, Bentley S, Montgomery J, O'keefe, M, Clarke A.** Pharmacogenomic influences on tacrolimus dose at liver transplant discharge: a retrospective audit.

**McGrath A, Allsep H, Trajceska L, Pham T, Vo T.** Forcing functions to reduce risk with metaraminol use at Austin Health.

**Meaklim A, Keith C, Liew D, Frauman A.** What adverse drug reactions were reported at Austin Health in 2023?

**Mitri E, Waldron J, Cox F, Chua K, Hall R, McInnes K, Reynolds G, Holmes N, Trubiano J.** Direct oral challenge for low-risk sulfonamide allergy: safety and antimicrobial stewardship impacts in hospitalised patients.

**Mitri E, Narayanasamy S, Holmes N, Ierano C, Roberts JA, Fernando S, Trubiano JA.** RECONCILE: A multi-disciplinary survey of penicillin allergy delabelling and future pharmacist-led antibiotic allergy service delivery.

**Mitri E, Vogrin S, Ana-Maria Copaescu, Waldron J, Cox F, Devchand M, Chua KYL, Hall R, McInnes K, Reynolds G, Holmes NE, Trubiano.** The long-term impact of a pharmacist-led antimicrobial stewardship penicillin allergy delabeling ward round.

**Mitri E**, Vogrin S, Fletcher L, James F, Turner M, Ierano C, Roberts J, Fernando S, de Luca J, Holmes NE, Trubiano J. The international network of antibiotic allergy nations (iNAAN): implementation of multidisciplinary penicillin allergy delabeling health service programs.

**Perera D**, Vogrin S, **Khumra S**, Clements R, Macfarlane C, Nunn, A, Trubiano J, Reynolds G. 'Do no harm': Long term outcomes of an antimicrobial stewardship program.

**Su E**, McMaster C, **El-Naggar S**, **Mouchaileh N**, Vengurlekar G, **Elliott R**, **Aminian P**, Frauman A, Liew D. Partnered pharmacist medication deprescribing: a collaborative approach to deprescribing sedatives and anticholinergics.

**To P**, **Than J**, Davies J, Hu R, **Allsep H**, **Ho L**, **Trajeska L**, Pham T, Bruce P, Cecchin A. Is IV paracetamol a pain?

**To TP**, **Ho L**, **Allsep H**, **McLachlan G**, Bottrell K, Cherry K. Where is the inhaler?

**Urbancic K**, **Batrouney A**, Yeo B, Tebbutt NC, Smibert O, Trubiano, Reynolds GK. Oncology antimicrobial stewardship: Safe Intravenous-to-Oral Switch and Antimicrobial Optimisation (OASSIS)



Above: Pharmacy Department Research Week posters displayed in the main corridor of the pharmacy.

# Awards

## Prizes and awards

**Elise Mitri. Best oral abstract presentation:** The International Network of Antibiotic Allergy Nations (iNAAN): implementation of multidisciplinary penicillin allergy delabelling health service programs. *Australasian Society for Infectious Diseases (ASID) Clinical Research Network Meeting*, Gold Coast 2024.

**Nicole O'Shea. Best presentation by a Specialist in Poisons Information.** *TAPNA (Toxicology and Poisons Network Australasia) Annual Scientific Meeting*, Melbourne 2024 (1-3 May) Presentation title: From sirens to solution: a collaborative approach between ambulance services and poisons information centres to rationalize pre-hospital care for the poisoned patient.

**Elizabeth Su, Suzanne El-Naggar, Nadia Mouchaileh, et al. Second place, Quality Improvement Award.** *Austin Health ResearchFest 2024*. Project title: Partnered Pharmacist Medication Deprescribing: a collaborative approach to deprescribing sedatives and anticholinergics.

**Jim Siderov. Second place, Consumer Partnership Award.** *Austin Health ResearchFest 2024*. Project title: Day Oncology at Home.

## Fellowships/scholarships

**Elise Mitri**, National Allergy Centre of Excellence (NACE) Postgraduate (PhD) scholarship. Project: "Multidisciplinary health services approaches to low-risk penicillin allergy delabelling". 2023 - ongoing

**Elise Mitri, Fellow of Advanced Pharmacy Australia (FAdPha)** (*formerly the Society of Hospital Pharmacists of Australia*), November 2024

## Higher education and training, academic appointments

**A/Prof Simone Taylor – Honorary Principal Fellow (Research)**, Department of Critical Care, University of Melbourne, March 2024

**Andrew Harding – Clinical Senior Lecturer**, Department of Critical Care, University of Melbourne, March 2024

## Australia and New Zealand College of Advanced Pharmacy (ANZCAP) recognition

ANZCAP was created in 2023 to enable pharmacists and pharmacy technicians to be recognised for their experience, expertise and specialty skills. Recognition can be achieved at the levels of resident (ANZCAP-Res), registrar (ANZCAP-Reg) and fellow (FANZCAP). The area(s) of specialty in which recognition was granted is provided in brackets.

Several Pharmacy Department staff were recognized in 2023. The pharmacists listed below were recognised in 2024:

- **Alana Meaklim** – FANZCAP (EmergMed, MedInfo)
- **Alison Tyedin** – FANZCAP (Cardiol, Edu)
- **Angela Shiu**, ANZCAP – Reg (GeriMed, ToC)

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- **Anne McGrath** – FANZCAP (Anticoag, MedSafety)
  - **Claire Keith** – FANZCAP (MedSafety, MedsInfo)
  - **Elise Mitri** – FANZCAP (Infectious Diseases, Research)
  - **Elizabeth Su** – FANZCAP (MedsMgmt, Steward)
  - **Gina McLachlan** – FANZCAP (Med Info)
  - **Helen Allsep** – FANZCAP (MedsMgmt, MedSafety)
  - **Lisa Ho** – FANZCAP (Research, MedSafety)
  - **Nadia Mouchaileh** – FANZCAP (GeriMed, Edu)
  - **Parnaz Aminian**, FANZCAP (MedsMgmt, Steward)
  - **Phung To** – FANZCAP (PeriopMed, MedSafety)
  - **Ruth Colley**, FANZCAP (EmergMed)
  - **Tim Tran** – FANZCAP (Lead&Mgmt, Research)
  - **Susan Bury** FANZCAP (MedsMgmt, Edu)

# Research degree involvement

## 1. PHD CANDIDATES

### **Patrick Hilley**

Virtual Clinics as a platform to deliver Values Based Health Care for Inflammatory Bowel Disease, University of Melbourne. (full-time, 2024 – ongoing)

### **Karen Urbancic**

Antifungal stewardship in immunocompromised patients including solid organ transplant and haematology patients, National Centre for Antimicrobial Stewardship, University of Melbourne (part-time, 2016 – ongoing)

### **Elise Mitri**

Multidisciplinary health services approaches to low-risk penicillin allergy delabelling, Department of Infectious Diseases, at Austin Health and Peter Doherty Institute for Infection and Immunity, University of Melbourne (full-time, 2023 – ongoing)

## 2. RESEARCH SUPERVISION

### **Simone Taylor**

Brett Anderson. Advancing hospital pharmacy technician roles in the Australian context. *PhD*, University of Sydney, NSW (part-time, 2021 - ongoing)

## 3. RESEARCH DEGREE PANEL MEMBERSHIPS

### **Rohan Elliott**

Brigid McInerney. Strategies to support psychotropic adverse drug event monitoring in residential care. *PhD*, Monash University (full-time, 2022 – ongoing)

### **Simone Taylor**

Elizabeth Doran. Risk assessment of poisoned patients by non-expert clinicians. *PhD*, University of Queensland (part-time 2020 – ongoing)

# Intern Foundation Program Projects for 2024

## **Grace Bubb**

Title: Varicella Zoster Virus (VZV) infection following autologous stem cell transplantation: pilot review of low dose valaciclovir prophylaxis and duration

Supervisors: **Karen Urbancic, Liv Smibert, Rohan Elliott**

## **Zoe Kantanis**

Title: JAK inhibitors and Varicella Zoster Virus (VZV) reactivation: an audit of antiviral prophylaxis

Supervisors: **Adele Batrouney, Elise Mitri, Gemma Reynolds, Rohan Elliott**

## **Nim Kullar**

Title: Hospital pharmacist interventions on oncology, haematology and palliative care prescriptions: a prospective observational study

Supervisors: **Karen Chiang, Christine Ting, Simone Taylor, Rohan Elliott**

## **Alysha Lam**

Title: Hospital pharmacist interventions on surgical discharge prescriptions: a prospective observational study

Supervisors: **Susan Nguyen, Christine Ting, Simone Taylor, Rohan Elliott**

## **Tran Ly**

Title: Adherence to national heart failure medication prescribing guidelines: an observational study

Supervisors: **Kate Lowe, Jacinta Castello, Simone Taylor**

## **Issy Tibb**

Title: How often does a pharmacist intervene to prevent medication errors on General Medicine discharge prescriptions?

Supervisors: **Jacinta Castello, Christine Ting, Rohan Elliott, Simone Taylor**

## **Isabella Solano**

Title: Delirium and code greys among patients who are smokers admitted to the intensive care unit: an observational study

Supervisors: **Cameron Livingstone, Kate Lowe, Simone Taylor**

# Ongoing projects

## 1. QUALITY USE OF MEDICINES

### Aged Care

**Dayment J, Mouchaileh N, Elliott R, Taylor S.** Evaluation of continuity of care for patients administered denosumab in hospital.

**Elliott RA, Taylor SE, Barned K, Howell T, Lalic S, Weeks G.** Access to medication administration orders and medication supplies at residential aged care facilities post transfer from hospital.

**Mouchaileh N, Elliott R, Taylor S, Barned K, Howell T, Lalic S, Rashed S, Khoshaba.** Medication transcription errors during hospital transfers of care: a multi-centre study.

**Taylor S, Elliott R, Mouchaileh N and RMIT Pharmacy Students.** Access to end-of-life care medications in the community: a prospective, observational study.

### Emergency Medicine

**Taylor SE, Mitri E, Harding AM et al.** Development and validation of screening tools for medicine-related problems at patient presentation and after discharge from the emergency department.

Ferma M, **Harding A, Green S.** Oxycodone use in ankle injury.

**Lu G, Taylor SE, Harding A, Green S.** Interventions to optimise prescribing of strong oral opioids to be taken following emergency department discharge: a systematic review.

**Bui C, Harding AM, Taylor SE, Mansouri N.** Nurse Initiated Analgesia in the Emergency Department.

### Infectious Diseases

**Urbancic KF, Kong DCM, Johnson PDR, Slavin MA, Thursky K.** Antifungal stewardship in Australian hospitals: defining the current scope and future targets.

**Trubiano J, Urbancic K, Grigg A, Cohan E, Fong C, Wong E.** Posaconazole plasma concentrations in haematology patients and the utility of therapeutic drug monitoring with the oral tablet formulation (multisite project – RMH, Austin)

## 2. MEDICATION SAFETY AND PHARMACOVIGILANCE

**Aminian P, Dayment J, McCormack E.** Identifying patients at high risk of opioid-related harm in a busy tertiary hospital; where do we start?

**McLachlan G, Meaklim A, Taylor S, Chan V and RMIT Pharmacy Students.** Risk of ketoacidosis for inpatients on SGLT2 inhibitors.

**Taylor S, Mouchaileh M, Elliott R, Hussein Z and RMIT Pharmacy Students.** Victorian Community Pharmacy Palliative Care Project: access to end-of-life-care medications in the community.

### 3. PHARMACY SERVICE DESIGN AND DELIVERY (HEALTH SERVICES RESEARCH)

**Christine Ting, Nadia Mouchaileh, Rohan Elliott, Tim Tran, Monash Inquiry students.** Facilitating medication-related transitions in care: accuracy of discharge summaries, patient friendly medication lists and Cerner generated interim medication administration charts.

**Atwal B, Richardson B, Hardidge A, Delahunt M, Than J, Walkley E, Tran T.** An expanded pharmacy service for an Orthopaedic Enhanced Recovery Program to reduce length of stay.

**Lau J, Nguyen S, Tran T, Horrigan, Yeoh J, Martin L.** Designing and implementing a virtual cardiac hospital in the home pharmacy service - an innovative approach.

**Shiu A, Tran T.** Evaluation of a comprehensive pharmacy service delivered to Better@Home subacute patients.

**Lowe K, Castello J, Tran Ly, Taylor S.** Adherence to national heart failure guidelines.

**Su E, McMaster C, Liew D, Aminian P, Mouchaileh N, El-Naggar S, Elliott R.** Retrospective audits of deprescribing of medications with anticholinergic or sedative properties for older patients.

**Aminian P, Su E, Liew D, McMaster C.** Focus on Function; redesigning post-operative pain management education for consumers.

**Aminian P, Charlton S, Gandabhai S, Su E, Liew D, McMaster C.** Communicating for safety - supporting opioid continuity for our palliative care consumers transitioning home.

Penm J, Moles R, Criddle D, Angley M, [...], **Elliott R**, et al. Timely post-discharge medication reviews to Improve continuity – the Transitions Of Care stewardship (TIC TOC) study in rural and regional Australia: a parallel-group randomised controlled trial. Trial registration: ACTRN12623000727640.

Hussainy S, Rogers J, Aliye N, Johnson J, Hickman L, **Taylor S, Elliott R**, Mirkov S, Ford D, Penm J, Page A, Galbraith K, Pont L. Pharmacy staff research behaviour project.

### 4. TOXICOLOGY

**Greene S.** The Emerging Drugs Network of Australia VIC (EDNAV) project.

Cairns R, Wright N, **Elliott R**, Wylie C, Lynch A, **Greene S**, et al. Boosting public health research with a national poisoning dataset.

**Di Giovine O, Elliott R, Browning J.** Insulin self-administration errors reported to a poisons information centre.

**White J, Liang Y, Elliott R.** GLP-1-receptor agonist self-administration errors reported to a poisons information centre.



## Research Collaborators

### AUSTIN HEALTH DEPARTMENTS

- Aged Care
- Clinical Pharmacology
- Clinical Toxicology
- Emergency
- Gastroenterology
- General Medicine
- Infectious Diseases and Immunology
- Oncology
- Orthopaedics
- Victorian Poisons Information Centre
- Sustainability Unit

### UNIVERSITIES

- Monash University
- RMIT University
- University of Melbourne
- University of Sydney
- University of Technology, Sydney

### AUSTRALIAN HOSPITALS

- Barwon Health (VIC)
- Eastern Health (VIC)
- Monash Health (VIC)
- Northeast Health – Wangaratta (VIC)
- Royal Melbourne Hospital (VIC)
- St Vincent’s Hospital (VIC)
- Peter MacCallum Cancer Centre (VIC)
- The Northern Hospital (VIC)

## Addendum:

### **Two additional presentations were presented in 2024:**

MTY Leung, JP Turner, C Marquina, J Ilomaki, **T Tran**, JS Bell. Use of Gabapentinoids and Risk of Hip Fractures: A Population-based Case-crossover and Case-Case-Time-Control Study. *ISPE Annual Meeting*, Berlin, Germany, 2024 (Aug 24-28). Abstract published in: *Pharmacoepidemiology and Drug Safety*. 2024; 33 (suppl 2): 43-43

MTY Leung, JP Turner, C Marquina, J Ilomaki, **T Tran**, JS Bell. Drug Holiday of Oral Bisphosphonates and Mortality following Hip Fracture: A Population-based Cohort Study. *ISPE Annual Meeting*, Berlin, Germany, 2024 (Aug 24-28). Abstract published in: *Pharmacoepidemiology and Drug Safety*. 2024; 33 (suppl 2): 570-571

### **One additional journal article was published in 2024:**

MTY Leung, JP Turner, C Marquina, J Ilomaki, **T Tran**, JS Bell. Effect of oral bisphosphonate drug holiday on mortality following hip fracture. *Journal of Clinical Endocrinology & Metabolism*. 2024;109(11), 2793-2801 <https://doi.org/10.1210/clinem/dgae272>

**These additional outputs have *not* been included in this report abstract, overview and figure.**