



Mobile Learning Unit: Impact Report

Welcome to our FY22-23 Impact Report



Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi-wurrung and Bunurong peoples. We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students we are privileged to work and learn every day with Indigenous colleagues and partners.

Executive Summary

We partner with field experts to provide online learning solutions which have helped thousands of busy healthcare professionals upskill and improve not only patient care, but also their own wellbeing.

Our team developed and released 23 courses in FY22-23. This includes courses part of the Medical Degree at the University of Melbourne and online short courses in collaboration with various organisations, like the Victorian Comprehensive Cancer Centre. We have also partnered with various hospitals across the country to support our eLearning with simulators and workshops held by experts in clinical ultrasound.

With over 8,000 new students in our platform and almost 3,500 students finishing a course with us this year, we have expanded our impact to reach more people than ever before. In addition to high completion and satisfaction rates from our courses, we have been working hard to continually improve the systems architecture that supports our students and partners.

We have successfully initiated multimillion-dollar government contracts with South Australia Health, Government of Western Australia, and the Victorian Government and continue to provide high quality services with efficient project management and robust reporting to our clients in supporting healthcare workers across the country.

Furthermore, our research team under the experienced leadership of Professors Alistair Royse and Colin Royse have not only submitted 20 publications the past year, but also won massive grants with the potential to revolutionise healthcare.

Student Focus

“Your courses have helped me treat patients better and see hundreds of smiles over of the past few years. And I am sure that more and more clinicians are helping increase this thousandfold.”



Dr Mazhar Mahmood Anaesthetist, MBBS; DA; FCA; FANZCA; PGDIP-CU (Unimelb)



8,916
new students



3,419
students finished a course

Our most popular courses

1. Resilience and Wellbeing: Supporting Health Care Workers

Providing tools and guidance for building resilience, practicing self-care, and wellbeing for nurses, midwives, and nurse practitioners as part of our contract with South Australia Health.

2. APC Cultural Safety Training for Physiotherapists

Physiotherapists working to create an affirming and inclusive environment for Aboriginal and Torres Strait Islander Peoples during treatment.

3. Primary Health care for Trans, Gender Diverse, and Non-Binary People

Create an affirming and inclusive environment for TGDNB patients attending general practice and community care.

4. MD4 UG Peripheral Venous Access

For the first time ever in Australia, giving medical students the opportunity to choose foundational ultrasound skills as part of their discovery subject. This is 477 doctors in training that will not miss an intravenous drip again which will not only save time during procedures but also provide a less painful experience for patients.

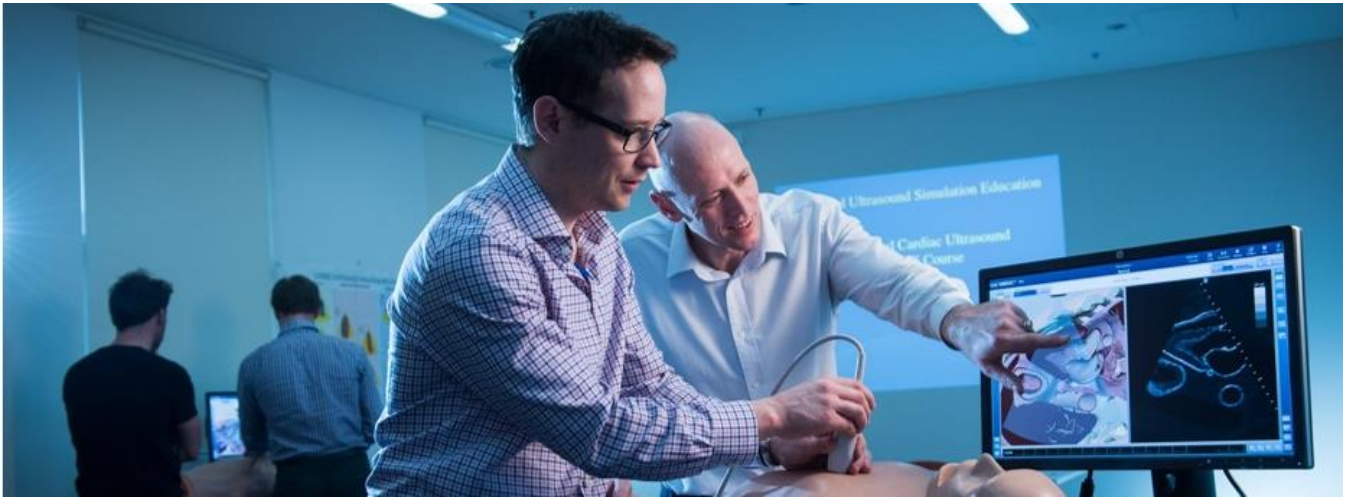
5. Mental Health care for Trans, Gender Diverse, and Non-Binary People

Designed for mental health professionals to become familiar with and sensitive to the diverse experiences, issues, and respectful terminology for trans, gender diverse, and non-binary clients.



Launching The Specialist Certificate in Clinical Ultrasound

A new course is in development and will be launched at the start of 2024. This Specialist Certificate will provide introductory skills in clinical ultrasound especially relevant for paramedics but also be nested in our suite of clinical ultrasound courses; giving them an opportunity to upskill to a Graduate Certificate or even a Masters.



Tenders, Contracts, and Partnerships for Impact

1. VIC Schools Mental Health Menu

We are proud to announce that we are supporting the mental health and well-being of school aged children in Victoria. In collaboration with the Victorian Government, we have launched and included 2 online short courses

The courses aim to educate teachers, parents, and caregivers in helping children build resilience against trauma and loss, as well as providing strategies to understand, notice, and improve the overall general mental well-being of school children in Victoria.

2. Supporting Healthcare Workers Through COVID

In collaboration with the School of Health Sciences, the School of Psychology, and leadership experts, we launched the new course to support 15,000 nurses and midwives navigate through the challenges of COVID which are still prevalent today.

3. Transition to Critical Care Nursing

This online short course has been specifically designed for registered nurses (RNs) and will provide fundamental knowledge underpinning critical care nursing. In collaboration with South Australia Health, we will support 1,600 nurses and midwives to provide better care to patients in critical condition.

4. Introducing The Teachers' Portal

As part of our mission to continuously improve educational standards, we have also launched a new and exciting development dubbed as the Teachers' Portal.

This allows us to not only track student progression but also supports our ideology of continuous improvement by providing real time insights into student responses and interactions with our bespoke portal. We can not only help struggling students with their workload and course material but also improve our course material to ensure consistently high-quality education.

5. National Aboriginal Community Controlled Health Organisation (NACCHO)

In conjunction with NACCHO and key personnel from the Aboriginal Community Controlled sector, co-design an on-line course, based on the existing Focused Cardiac Ultrasound Transthoracic Echocardiograph (FCU TTE) course. The course will provide a staged learning program to provide Aboriginal Community Controlled Health Organisations (ACCHO) staff with the essential knowledge and practical skills to acquire images and interpret them, focusing on Rheumatic Heart Disease (RHD) (For the purpose of this contract the course will be known as the FCU TTE Modified course). Course development includes the online course, and written materials associated with the course.



Research

Clinical Trials

1. MRFF Arterial Graft Grant led by Professor Alistair Royse

A major MRFF grant was awarded recently to Prof Alistair Royse and colleagues to investigate, total arterial coronary revascularisation, of \$5 million. This is the first major prospective randomised trial of these techniques internationally. Australia is the ideal locality for this trial having the highest rated total arterial revascularisation. This also is the first major coronary surgery trial that has been externally funded in Australia.

2. EchoNOF III Trial- largest Ultrasound Trial led by Professor Colin Royse

The EchoNOF III has been funded at \$3.67 million over five years and will investigate whether a preoperative focused cardiac ultrasound will reduce the composite outcome of mortality and morbidity measures 30 days after surgery for fractured neck of femur. This follows a pilot randomised trial which suggested a clinically important benefit. This study will recruit 2000 patients over 10 to 15 sites across Australia.

It will be the largest clinical trial ever to investigate an ultrasound intervention and hopefully will provide the definitive answer in this vulnerable population.

3. TriCS IV Trial: Transfusion Requirements in Younger Patients Undergoing Cardiac Surgery

An international multi-centre, open label, randomised controlled trial (RCT) of a restrictive versus liberal transfusion strategy in higher risk patients ≤ 65 years of age having cardiac surgery on cardiopulmonary bypass, using a superiority trial design. 1,440 patients will be enrolled internationally.

4. ECLIP II Trial – The Cryopreserved vs. Liquid Platelets trial

A phase III multicentre blinded randomised controlled clinical non-inferiority trial of cryopreserved platelets vs. conventional liquid -stored platelets for the management of surgical bleeding. This is a definitive trial to determine if cryopreserved platelets are as safe and effective as liquid-stored platelets in high-risk adult cardiac surgery patients.



Research Highlights

1. Published our major paper in Journal of the American College of Cardiology (JACC)

PhD Student Justin Ren had his paper accepted in the prestigious Journal of the American College of Cardiology, under the mentorship of Professor Alistair Royse and Professor Colin Royse. The research can have a massive impact on patient survival undergoing contemporary, coronary bypass surgery. Justin is currently pursuing his PhD full-time whilst studying Medicine in WA.

2. Submitted an MRFF grant for 2022 Clinical Trial's Activity Grant Opportunity

Dr Andrea Bowyer has submitted: *The benefit of providing patients and their health care providers with individualized real-time recovery information to optimize patient recovery and reduce health care expenditure – A Multicentre Study*. It is essential that patients and their treating clinical team are engaged and kept informed of patients progress throughout the entire perioperative journey. This multicentre, RCT involving 1400 patients across five Australian clinical sites, is a collaboration between national and international researchers including surgeons, anaesthetists, translational scientists, and health economists dedicated to improving quality of postoperative recovery.

The impact of this study would be to bolster integration of longitudinal assessment of individualised patient recovery throughout the postoperative period, to engage patients and optimise communication between patients and providers, to ultimately improve patient outcomes.

3. Professor El-Ansary a won a prestigious award by the APA

Professor Doa El-Ansary was the recipient of APA Victorian Branch Physiotherapy Achievement Award – Contribution to the profession by the Australian Physiotherapy Association (APA). This achievement is reserved for eminent contribution to the Association and Physiotherapy profession. In particular, the APA acknowledges Professor El-Ansary's contribution to Physiotherapy education, research and service to the Association.

Professor Doa El-Ansary has also submitted an MRFF grant opportunity: *Impact of Personalised Early Resistance Exercise Training Compared to Aerobic Based Exercise Training on Cognitive Recovery and Cost of Healthcare in Cardiac Surgery: an RCT*.

All publications

Our research team published 20 publications this year whereas the average for a team our size would be 5 publications. We commend the hard work of all our research staff and the mentors that made achievement possible.

1. [Survival of Multiple Arterial Grafting in Diabetic Populations: A Twenty-Year National Experience.](#)
Ren J, Royse C, Tian, D, Gupta A, Royse A, Eur J Cardiothorac. Eur J Cardiothorac Surg. 2023. PMID: 36924418
2. [Left Atrial Appendage Occlusion during Cardiac Surgery to Prevent Stroke.](#)
Whitlock RP, Belley-Cote EP, Paparella D, Healey JS, Brady K, Sharma M, Reents W, Budera P, Baddour AJ, Fila P, Devereaux PJ, Bogachev-Prokophiev A, Boening A, Teoh KHT, Tagarakis GI, Slaughter MS, Royse AG, et al, N Engl J Med. 2021 Jun 3;384(22):2081-2091
3. [Restrictive versus liberal transfusion in patients with diabetes undergoing cardiac surgery: An open-label, randomized, blinded outcome evaluation trial.](#)
Mistry N, Shehata N, Carmona P, Bolliger D, Hu R, Carrier FM, Alphonsus CS, Tseng EE, Royse AG, Royse et al, 2022 Mar;24(3):421-431
4. [Health-related quality of life after restrictive versus liberal RBC transfusion for cardiac surgery: Sub-study from a randomized clinical trial.](#)
Hu RT, Royse AG, Royse C, Scott DA, Bowyer A, Boggett S, Summers P, Mazer CD. Transfusion 2022 Sep 6
5. [Long-Term Observational Angiographic Patency and Perfect Patency of Radial Artery Compared To Saphenous vein Or Internal Mammary Artery In Coronary Bypass Surgery.](#)
Ren J, Royse C, Siderakis C, Srivastav N, Royse A. In Press, Journal Pre-proof, Available online 15 September 2022
6. [Late Clinical Outcomes of Total Arterial Revascularization or Multiple Arterial Grafting Compared to Conventional Single Arterial with Saphenous Vein Grafting for Coronary Surgery.](#)
Ren J, et al. J Clin Med. 2023. PMID: 37048600 Free PMC article. Review.
7. [Identifying risk factors for poor multidimensional recovery after major surgery: A systematic review.](#)
Ou-Young, J, Boggett, S, El-Ansary, D, Clarke-Errey, S, Royse, CF, Bowyer, AJ. Acta Anaesthesiol Scand. 2023; 1-12. doi:10.1111/aas.14302
8. [Factors influencing thigh muscle volume change with cycling exercises in acute spinal cord injury - a secondary analysis of a randomized controlled trial.](#)
Panisset, MG. El-Ansary, D. Dunlop, SA.
9. [Venous Doppler to Assess Congestion: A Comprehensive Review of Current Evidence and Nomenclature.](#)
Deschamps, J. Denault, A. Galarza, L et al.

10. [Reliability and validity of sit-to-stand test protocols in patients with coronary artery disease.](#)
Wang, Z. Yan, J. Meng, S et al.
11. [Primary repair of traumatic type A aortic dissection](#)
Ratnaraj, V. Homewood, D. Scheuer, S. Royse, A.
12. [Total arterial revascularization is associated with long-term survival benefit in coronary artery bypass grafting: systematic review with meta-analysis.](#)
Ren, J. Royse, A. Tian, D et al.
13. [Long-term survival after coronary bypass surgery with multiple versus single arterial grafts](#)
Royse, A. Royse, C. Ren, J.
14. [Impact of focused cardiac and lung ultrasound screening performed by a junior doctor during admission to the surgical ward on patients before emergency non-cardiac surgery: A pilot prospective observational study.](#)
Wong, C. Vijayakumar, R. Canty, DJ et al.
15. [Automatic Deep Learning-Based Consolidation/Collapse Classification in Lung Ultrasound Images for COVID-19 Induced Pneumonia.](#)
Durrani, N. Vukovic, D. van der Burgt, J et al.
16. [Validity and Reliability of a Novel Smartphone Tele-Assessment Solution for Quantifying Hip Range of Motion](#)
Marshall, CJ. El-Ansary, D. Pranata, A et al.
17. [Effect of Saphenous Vein Graft on Multiple Arterial Grafting Survival.](#)
Ren, J. Royse, C. Bogget, S. Royse, A.
18. [Perioperative Doppler ultrasound assessment of portal vein flow pulsatility in high-risk cardiac surgery patients: a multicentre prospective cohort study.](#)
Denault, A. Courutre, EJ. De Medicis, E et al.
19. [Coronary Artery Bypass Surgery Without Saphenous Vein Grafting.](#)
Royse, A. Rej, J. Royse, C et al.
20. [Three Zone Scanning Protocol for Lung Ultrasound: An Anatomical Basis.](#)
Royse, AG. Lui, E. Gai, D et al.