

Embedded Education - Delivering a sustainable pipeline to address a critical Allied Health workforce shortage

Travis Pearson¹, Sarah Daniel¹, Eddie Gacitua² and Liza-Jane McBride²

¹Metro North Hospital & Health Service, Herston, QLD, Australia

²Office of the Chief Allied Health Officer, Queensland Health, Australia

Background

There is an identified critical workforce shortage in several allied health professions across Australia, with the impact most pronounced in regional and rural communities. Although the allied health workforce has grown collectively since 2013, demand for services continues to rise, driven by Australia's expanding and aging population [1]. This has resulted in substantial shortages across many professions. The *Occupation Shortage List 2024* identified workforce shortages in 82% of health professions, underscoring the urgency of the issue [2]. Population trends and constraints within traditional university training models—where program structures have remained largely unchanged—highlight issues such as geographical limitations and placement poverty. These factors suggest that workforce demand will continue to outpace supply, with smaller allied health professions likely to be disproportionately impacted.

Addressing the gap requires innovative and targeted approaches to workforce development

Building the pipeline

Nuclear Medicine Scientists (NMS) are a small but vital component of the allied health workforce. Over the past decade, some of the critical services provided by Nuclear Medicine Scientists have experienced growth of up to 350%, while the average annual increase in new registrants entering the workforce has been just 2.9% [3].

This workforce shortage is particularly acute in regions such as Queensland, the Northern Territory, and Western Australia, where no local program of study for Nuclear Medicine is available.

In response to the significant growth in demand and increasing concerns about the sustainability of the NMS workforce in Queensland, the Office of the Chief Allied Health Officer hosted the Queensland Nuclear Medicine Scientist Workforce Summit in November 2023. The summit brought together key stakeholders from the public and private sectors, professional bodies, and university partners. The Summit Outcomes Report identified twelve key workforce initiatives to address these challenges and support the future of NMS in Queensland.

Program Timeline

2023

- 22 November** OCAHO Nuclear Medicine Workforce Summit
- 13 February** ESM Working Group established
- July** RMIT College Approval granted
- August** Queensland Health presents workforce data and seeks government support
- 8 November** Queensland Health NMS-ESP EOIs Open
- November** NM-ESM case presented to RMIT Program Committee and program accreditation received
- November/December** 29 applicants for 8 positions, Interview and candidate selection

2024

- 26 February** Official RMIT Program Launch
- 3 March** First week of program, 19 students enrolled in NMS-ESP across Queensland

[1] Kolt G. Development of and support for the rural and remote allied health workforce in Australia. Presented 22 March 2025. Canberra: Australian Government; 2025. Available from: <https://nceph.anu.edu.au/files/NCHWS%20Data%20Insight%20Series%20-%20Mar2024.pdf>

[2] Jobs and Skills Australia. Occupation Shortage List 2024. Canberra: Australian Government; 2024. Available from: <https://www.jobsandskills.gov.au/data/occupation-shortages-analysis/occupation-shortage-list>

[3] Office of the Chief Allied Health Officer. Nuclear Medicine Workforce Summit Outcomes Report 2023. Brisbane: Queensland Health; 2023. Available from: https://www.health.qld.gov.au/_data/assets/pdf_file/0029/1313597/NMS_Report.pdf

[4] Department of Education. Australian Universities Accord Final Report. Canberra: Australian Government; 2024. Available from: <https://www.education.gov.au/australian-universities-accord/resources/final-report>

Program delivery

In March 2025, Queensland Health, in collaboration with the Royal Melbourne Institute of Technology (RMIT) and three large medical imaging service providers, welcomed the first cohort of students enrolled in the Nuclear Medicine Scientist Embedded Student Program (NMS-ESP). The NMS-ESP was designed in alignment with the recommendations and strategies outlined in the *Australian Universities Accord Final Report* [4]. This innovative program differs from the conventional pathway by offering students a more accessible and sustainable route to study Nuclear Medicine. Key features include:

1. Access to education

Students can study in the region where they live, removing the need to relocate interstate. This allows them to retain their sense of community, maintain existing support systems, and may reduce financial burden. The NMS-ESM program has enabled equitable access for both recent high school graduates and mature-age students.

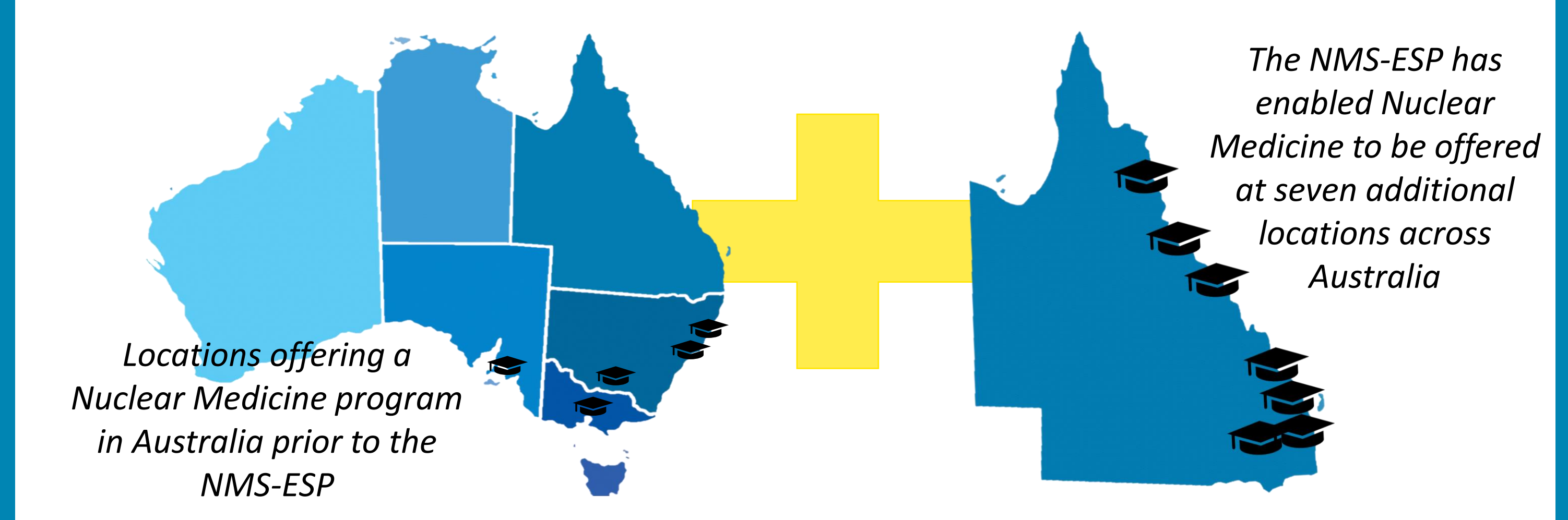
2. Industry Integration

Through strong industry partnerships, students are bonded with a clinical placement facility for the duration of their program. This model integrates students into the profession from day one, fostering early professional identity and continuity.

3. Tackling Placement Poverty

Clinical placements are completed part-time (2 days per week) during years 1 to 3, integrated throughout semesters, rather than in full-time blocks. This structure reduces the need for relocation and enables students to maintain part-time employment alongside their studies.

Students receive financial assistance, including scholarships of up to \$15,000 per year at Queensland Health sites. Student's bonded with private providers are supported through paid employment or bursaries for the duration of their studies.



Shaping the future

The Embedded Education program represents a forward-thinking initiative designed to enhance entry-level education pathways for allied health students.

The program holds significant promise as a model for other allied health professions, particularly those grappling with persistent workforce shortages; limited, geographically distant university programs; and complex training environments.

By embedding education within the clinical setting, the program not only addresses immediate pipeline challenges but also supports students in overcoming placement poverty—a growing concern in a geographically dispersed healthcare system where access to affordable, quality placements can be limited. Looking ahead, the program will undergo ongoing evaluation and reporting to ensure outcomes are measured, and valuable lessons are captured to inform future iterations. It is hoped that this innovative model will shape the future of Nuclear Medicine in Queensland, offering a sustainable and impactful solution to workforce development across the sector.

It is anticipated that in 2026, the NMS-ESM will be offered at new Australian locations outside Queensland. The model lends itself for replication across other Allied Health professions to support their training pathways.

Contact Information

Office of the Chief Allied Health Officer
Phone: +61 7 3328 9298
Email: AH_CETU@health.qld.gov.au



Scan here for further information on the program



Queensland Government