

Evaluation Report

Flexible Approach to Training in Expanded Settings

1-VFIDNW



THE AUSTRALASIAN COLLEGE
OF DERMATOLOGISTS

Project title

An innovative and collaborative model of hybrid education and supervision for specialist dermatology training in Townsville.

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Executive Summary

In 2021, the Australasian College of Dermatologists (ACD) were successful in receiving funding from the Department of Health and Aged Care under the *Flexible Approach to Training in Expanded Settings* (FATES) program to implement a hybrid model of education and supervision of specialist dermatology trainee in Far North Queensland, linking Townsville University Hospital (TUH) with Melanoma Institute of Australia (MIA), a metropolitan centre of excellence.

The dermatology workforce is faced with a significant shortage in Far North Queensland. With the highest rates of skin cancer in the world, there has previously been no dedicated comprehensive care facility in North Queensland for patients at high-risk of melanoma, despite it being best practice care in metropolitan areas and critical given the high incidence and disease burden on both patients and Queensland's health system.

The aim of this project was to build the capability, quality and sustainability of specialist dermatology training in Far North Queensland through the implementation and evaluation of a hybrid model of education and supervision. The project was in-field from February 2022 to February 2024, and added up to 0.3 FTE supervising and education consultant capacity to TUH and MIA.

The methodology of the evaluation utilised both quantitative and qualitative methods to assess the process of developing and implementing the model, and the summative outcomes for acceptability, uptake and sustainability of the model. The ACD Project team conducted semi-structured, qualitative interviews and an online survey between January 2023 and December 2023, as well as descriptively collecting sustainability outcomes.

Four key themes emerged from the evaluation, including: (1) the hybrid model of education and supervision was acceptable across several domains; (2) while there were some logistical challenges, the model was still acceptable and efficient; (3) the model has facilitated the establishment of TUH as a centre of excellence in melanoma diagnosis; and (4) fostering the relationships built with metropolitan-based colleagues is central for the sustainability of the model, and for improving the quality of rural and remote practice and training.

This project demonstrates the networked models of hybrid education and supervision are feasible and effective in boosting regional workforce and training capability and capacity, and access to clinical sub-specialty expertise, while improving patient outcomes. Medical colleges are well placed to lead collaborative solutions like these that bring Federal and State/Territory funding together to build supervisory, training and service delivery capacity in regional, rural and remote Australia, all of which are critical to enabling a homegrown workforce.

This report aims to present an evaluation of the hybrid model of education and supervision which identifies whether the model has been implemented as intended and assesses the impact of the model in achieving the intended outcomes.

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Introduction

In 2021, the ACD successfully received funding from the Department of Health and Aged Care under the FATES program to implement a hybrid model of education and supervision of specialist dermatology training in Far North Queensland, linking TUH with MIA, a metropolitan centre of excellence.

The dermatology workforce is faced with a significant shortage in Far North Queensland, with only one dermatologist residing in Townsville and two trainees providing services to the largest hospital in Northern Australia (as of January 2022) – TUH (catchment approx. 700,000 people).

With the highest rates of skin cancer in the world, and serving rural/remote First Nations communities, Far North Queensland has unique specialist dermatology healthcare needs. However, there has previously been no dedicated comprehensive care facility in North Queensland for patients at high-risk of melanoma, despite it being best practice care in metropolitan areas and critical given the high incidence and disease burden both on patients and Queensland's health system.

The aim of the project was to build the capability, quality and sustainability of specialist dermatology training in Far North Queensland through the implementation and evaluation of a hybrid model of education and supervision. The project was in-field from February 2022 to February 2024, and added up to 0.3 FTE supervising and education consultant capacity to TUH and MIA.

The success of the hybrid model has been assessed by an evaluation framework comprising outcome measures of acceptability, uptake and sustainability.

This report aims to present an evaluation of the hybrid model of education and supervision which identifies whether the model has been implemented as intended and assesses the impact of the model in achieving the intended outcomes. The report outlines the approach, scope and methodology of the evaluation, as well as the key findings of the evaluation.

FATES program objectives

The objectives of the FATES program are to:

- Improve and promote a positive rural and remote medical education culture and support quality specialist medical training in rural and remote Australia.
- Reduce barriers and improve incentives for entering rural and remote medical practice.
- Improve the imbalance of distribution of the non-GP specialist medical training arrangements and workforce, particularly in areas of unmet need.
- Attract and support Aboriginal and Torres Strait Islander trainees to grow the Indigenous workforce towards population parity.

Intended project outcomes

The intended outcomes of this project as aligned with the FATES objectives were to:

- Test a hybrid education and supervisory model to build dermatology workforce capacity and capability in Townsville as the pilot site; determine model scalability for other regional areas in Australia; and ensure responsiveness and adaptability to system demands and travel restrictions.

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- Expand supervisory support to ensure quality and sustainability of the Specialist Training Position (STP)-funded position.

Methodology

The methodology of the evaluation utilises both quantitative and qualitative methods to assess the process of developing and implementing the model, and the summative outcomes for acceptability, uptake and sustainability of the model.

It was outside the evaluation scope due to project duration to consider the impact on patient experience stemming from the hybrid model of education and supervision and impacts on health outcomes. However, the summative evaluation provides an indication of the extent to which the project achieved its intended outcomes.

Setting, participants and recruitment

This evaluation was conducted within the TUH Dermatology Department that offers dermatology services to patients in Townsville, and with consultants from Melanoma Institute Australia (MIA) who provided remote educational support to TUH trainees.

Participant recruitment was from all clinical staff involved in the hybrid model of education and supervision, including consultants and trainees. A non-probabilistic purposive sampling strategy was used to target interviewees who were approached through direct email communication to establish consent and arrange a mutually convenient interview time.

Data collection methods

The ACD Project team conducted eight semi-structured, qualitative interviews between January 2023 and December 2023, either in person or via Teams. Questions followed an interview guide that included both baseline questions around previous experience in Townsville and project expectations, as well as follow-up questions on their experience of the model. These questions were intended to assess the acceptability, uptake and sustainability of the model.

Other sustainability outcomes, including ongoing funding, impact on local recruitment and ongoing engagement between TUH and MIA were collected descriptively.

An online survey was also distributed to trainees who participated in the project in December 2023 to enable anonymized feedback and triangulate interview data. The survey was sent to nine trainees who had participated in the model across the project's duration and had a 56% response rate. Noting, that the average duration of a trainee rotation was 6 months.

The twelve survey questions focused on rating experience within the model and identifying advantages, disadvantages and opportunities for improvement.

Data analysis

Quantitative data was input into a Microsoft Excel data spreadsheet.

For the qualitative data, with consent from participants, notes were taken during interviews and/or audio-recorded and then transcribed. The transcripts were checked for accuracy and edited, and then coded manually by ACD Project team using inductive thematic analysis.

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Emerging themes were identified by two ACD Project team members independently after collating categories from grouped codes and key quotes. Themes were then validated by both ACD Project team members, sharing and comparing their coding and reaching consensus around the key findings.

Results

Based on the analysis of qualitative interviews and survey results, four key themes emerged from this evaluation:

- The hybrid model of education and supervision was acceptable across several domains, including: a) enhancing trainee experience; b) upskilling and capacity building for the local dermatology workforce; c) consultant satisfaction; d) reducing waitlists; and e) improving diagnostic accuracy.
- Despite some initial logistical challenges, the model was still acceptable and efficient.
- The model has facilitated the establishment of TUH as a centre of excellence in melanoma diagnosis.
- Fostering the relationships built with metropolitan-based colleagues is central for the sustainability of the model, and for improving the quality of rural and remote practice and training.

In addition, to the findings from the qualitative interviews and surveys, there have been clear benefits in terms of embedding state funding, sustainability and learnings for transferability covered later in the discussion.

Acceptability and uptake of the hybrid model of education and supervision across several domains

Trainee experience

The hybrid model of education and supervision has achieved its intended outcome to expand and stabilise supervisory capacity, and to ensure high quality and comprehensive dermatology training at TUH. Twenty-nine high-risk melanoma targeted screening clinics were conducted over 16 months. A total of 318 patients were seen at this clinic.

The project has facilitated several clinical training opportunities for trainees, including:

- Exposure to varied supervision, teaching styles and special interests.
- Engagement with metropolitan-based colleagues at a major centre of excellence.
- Access to sub-specialty expertise in advanced melanoma diagnosis and management, and exposure to Aboriginal and Torres Strait Islander dermatology by building relationships with local Aboriginal and Torres Strait Islander Health Services and Townsville Correctional Centre.

The impact of the high-risk melanoma targeted screening and rapid access clinics for at-risk patients on trainee experience has been positive. “The clinics [high-risk melanoma and rapid clinics] are a perfect complement and have increased consultant diversity for trainees, providing a more comprehensive training program to our trainees outside major metro cities,” stated a supervising consultant.

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Trainees have signaled that the additional supervising consultant brings a wealth of knowledge and experience, with responses including that the consultant “is a great asset to the TUH dermatology department. So meticulous with knowledge.” Of the 5 trainees surveyed, 100% indicated that the model has increased their confidence in:

- Autonomously diagnosing melanoma and skin cancer;
- Developing management plans for high-risk melanoma patients; and
- Delivering quality patient care.

This may be attributed to the additional support received from the FATES-funded supervising consultant. Trainees also were able to access the FATES-funded supervising consultant offsite via email, SMS and phone for advice on melanoma high-risk patients, facilitating decision-making in patient management and enhancing the trainee experience.

Throughout the duration of the project, forty-two educational sessions have been delivered by multidisciplinary consultants at MIA. With a variety of topics covered, such as melanoma surgery, melanomas in special sites (i.e., nails), melanoma subtype management, clinic-pathology correlation sessions, advanced diagnostic techniques, procedures and processes, ethics and photography, genetics, sentinel lymph node biopsy, targeted therapy and immunotherapy, the educational sessions have been grounded in learning theories and exposed trainees to unique situations. 60% of trainees have attended 15 or more educational sessions over the project’s duration. “This is the only training position to offer such an intense skin cancer experience.” It was also noted that trainees have found “the connection with MIA to be excellent and a great resource, helping us [trainees] gain additional knowledge in melanoma to become a better dermatologist.”

As a supervising consultant stated “to have a rural rotation in North Queensland and no skin cancer opportunity previously was nonsensical. As we [TUH] begin to train more Queensland trainees, they will get to spend more time (rurally) in North Queensland, so it becomes more important for those trainees to get exposure to the full spectrum of dermatology in the region.”

Upskilling and capacity building for dermatology service

This project has created opportunities to build the dermatology workforce capacity and capability in Far North Queensland and to incorporate sub-specialty expertise in melanoma and other skin cancers that were otherwise not accessible to the community, including First Nations communities, prior to FATES project implementation.

“Having only one dermatologist in Townsville has meant I [as the sole resident dermatologist] was only able to provide limited clinical supervision,” highlighting the significant burden on the TUH supervising consultant. The model has allowed for more consultant time with the trainee, which has improved the training quality of education and supervision. It has also established a broader network of supervising consultants, promoting trainee and consultant well-being and lessening the sense of isolation experienced by rural/remote consultants – “it is no longer a one person show and is starting to feel more like dermatology centres in metro cities, with a small group of consultants who rotate in and out.” This increased and more varied supervisory capacity has allowed ACD to introduce additional training positions in North Queensland.

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In addition, trainees, supervising consultants, junior medical officers (JMOs) and nurses at TUH have been upskilled in confocal microscopy. “It was the collaboration with MIA that has enabled us [TUH] to do that.” Survey responses of trainees about the confocal microscopy highlighted that:

- Exposure and training had been adequate (n=4, 80%),
- It had a positive impact on service delivery (n=3, 60%)
- Increased their confidence for use as a diagnostic tool (n=3, 60%)

“The confocal has allowed me to have exposure to and learn something I would not otherwise have been able to,” stated a supervising consultant. “There is still quite a way to go with upskilling and image acquisition learning..., but we are already finding the confocal useful.”

More than half of the surveyed trainees (n=3) indicated that participation in the hybrid model of education and supervision had increased the likelihood of them participating in rural practice long-term in North Queensland. While the majority stated that this would be fly-in-fly-out capacity, 40% stated that they would consider North Queensland as their primary, permanent place of practice.

Supervising consultant satisfaction

There was a high level of satisfaction among both the TUH and MIA consultants who participated in this model.

The ‘train the trainer’ model (i.e., local consultants connecting with metropolitan-based colleagues) has been beneficial. Interview findings suggest that:

- “It has been rewarding seeing [TUH consultants] familiarize themselves with the technology and take learnings back to TUH.”
- “The collaboration is giving us [rural consultants] the ability to interact with colleagues in major metro cities and establishing some firm working links.”
- “We do not see the same complexity of patients with chronic skin conditions [in metropolitan practice].” This project provides “a two-way learning opportunity as metro consultants are often the second referral (for complex cases on which the North Queensland based trainees and consultants need additional advice).”

Reduction in wait times

Of the 318 patients seen, 100% were Category 2 (semi-urgent), and were offered appointments and seen within the reasonable timeframe of 90 days.

Between August 2022 – December 2023, a total of 53 referrals were received. Of those referrals, the most were received in August 2023 (n=9), followed by August 2022 (n=7) and May 2023 (n=6).

No patients who attended the high-risk melanoma targeted screening clinic identified as Aboriginal and/or Torres Strait Islander. However, this result is unsurprising as melanoma rates are lower amongst Aboriginal and Torres Strait Islander peoples compared to the general population.

It is worth noting that a higher proportion of Aboriginal and Torres Strait Islander patients were seen at the rapid access clinic, with a higher-than-average failure to attend rate. This clinic was not formerly audited.

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Improvements in diagnostic accuracy

Of the 318 patients seen, 90 keratinocyte cancers (21 intraepidermal carcinoma; 13 squamous cell carcinomas; 56 basal cell carcinomas) and 25 melanomas were detected and diagnosed. This is baseline data as prior to the implementation of the model, there was no targeted high-risk melanoma service at TUH.

Logistical challenges of the model

The project experienced several logistical challenges which delayed some aspects of the capacity of clinical service, including:

- change in MIA's role from providing remote supervision to multidisciplinary education delivery;
- inadequate clinic space at TUH; and
- delays in specialised equipment delivery, such as the confocal microscopy.

However, due to risk management plans in place, the ACD Project team was able to address these logistical challenges and barriers appropriately and mitigate risks to ensure successful delivery of the project.

It was initially planned that MIA consultants would provide remote supervision to TUH trainees, but cross-jurisdictional challenges (i.e., access to hospital systems, privacy) meant that this was not achievable. Alternatively, MIA consultants provided remote education to TUH trainees, suggesting that “trainees appear to be valuing mentorship and it is becoming like old friends having coffee,” with valuable professional relationships being fostered. The linkage with MIA has reduced professional isolation, and increased clinical exposure and experience for rural trainees at TUH.

Supervising consultants indicated early in the project that there was limited clinic space at TUH, meaning that the TUH Dermatology Department only had access to one clinic room, making it difficult to see patients. The TUH Dermatology Department worked with the available resources, while successfully advocating for additional clinic space.

The confocal microscopy was 20 months delayed in arriving at TUH due to supply chain issues because of the COVID-19 pandemic. Although this meant that trainees and supervising consultants had limited time to utilise the confocal during the projects' duration, it provided the TUH Dermatology Department with additional time to ensure that the infrastructure for high-risk melanoma screening and rapid access clinics was in place and working well (e.g., developing processes for internal audits of confocal and melanoma cases). It was noted that TUH invested in other diagnostic equipment for the Dermatology Department as an interim solution, demonstrating successful stakeholder engagement with the project.

Establishing TUH as a centre of excellence

“TUH has been established as a centre of excellence, and this has made it easier to attract and retain staff.”

This project has opened the door for regional sites, like TUH to connect with a major metropolitan centre of excellence in melanoma. All trainees surveyed indicated that this project had helped

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establish “TUH as a centre of excellence for training future dermatologists”, improving the likelihood to attract and retain a rural health workforce.

Anecdotally, ACD is aware that there is an expressed interest in training positions in North Queensland among dermatology trainees (i.e., TUH). It could be assumed that the specialised tuition in melanoma and additional supervisory capacity has made TUH a sought-after training position.

Feedback from supervising consultants noted that “this [model] is unique to Townsville. No other dermatology trainees in Australia are getting such intense training and education on skin cancer. We are tackling big things in the skin cancer area and providing services to First Nations communities.”

“TUH is now linked to well-recognised institutions and has the technology that puts us at the forefront of the field”, and this is appropriate for such a rural tertiary institution.

Sustainability and scalability of the model

The 0.15 FTE supervising consultant at TUH will be sustained post project by Queensland Health, and TUH are currently looking at options to increase this further by an additional day per month. This will create further opportunities for increased training, upskilling in confocal microscopy and ensure patients at high-risk of melanoma receive timely and appropriate treatment and care. Not only does this provide local medical students and JMOs the opportunity to pursue dermatology as a career, but also considers succession planning for the future to sustain dermatology services and training in North Queensland.

This project established relationships for TUH trainees and consultants with MIA consultants, enabling them to feel confident to discuss complex cases with them, reducing professional isolation. Interview findings have suggested that both trainees and consultants from MIA and TUH are committed to ongoing engagement and plan to look for opportunities to continue collaboration and research, discuss complex cases, and connect into weekly discussion cases and educational events.

The educational sessions delivered by MIA are condition and site specific. They were delivered remotely and allowed the trainees to interact with the case studies presented. While the current mode of delivery cannot be sustained post project funding, College is exploring the value in utilising the recorded educational modules, as a tangible asset for other rural/remote training sites to augment learning opportunities available to ensure trainees continue to “have a comprehensive educational experience available (while on rural rotations).”

Discussion

This project’s aim was to build the capability, quality and sustainability of specialist dermatology training in Townsville through the implementation and evaluation of a hybrid model of education, supervision and service delivery to Far North Queensland.

Evaluation of the model has highlighted that the project has successfully increased focus and support for rural training, and re-balanced workforce supply and distribution through specialist medical training, aligning with the FATES priority areas. It has also provided valuable learnings to enable the transferability of the model across geographic locations and specialties.

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Gaining sub-specialty expertise in advanced melanoma detection and diagnosis during dermatology training has positioned TUH as a highly sought-after site for the region.

The innovative model provided Townsville-based dermatology trainees with access to remote education and increased supervisory consultant capacity to TUH to help deliver high-risk melanoma screening and rapid clinics to Far North Queensland, using established image-based platforms. It has created opportunities for trainees to be trained in conventional imaging, melanoma surveillance photography and confocal microscopy, to consult independently with support from the supervising consultants and to feel confident in autonomously diagnosing melanoma. This has created a highly attractive dermatology training hub, with fifteen applications received for the 2024 North Queensland training position. TUH is now positioned as a leading, sought-after training site.

Establishing TUH as a centre of excellence in melanoma to attract and retain the rural workforce at Townsville.

By establishing TUH as a centre of excellence in melanoma diagnosis, a long-term strategy for attracting and retaining future trainees and more consultants in regional/rural areas to better meet community needs is now in place. As one supervising consultant stated, “this project has enabled opportunities for dermatologists to gain additional exposure outside private practice by supervising trainees within the public sector.”

Connecting local consultants with metropolitan-based colleagues has created bi-directional learning opportunities, and improved work-life balance and professional satisfaction for rural/remote trainees and consultants.

The educational support received from MIA has had a positive impact on dermatology training in TUH, whereby learning opportunities created have been bi-directional. Not only have TUH trainees and consultants benefited from being able to share complex cases with metropolitan based colleagues, but MIA consultants have also been able to provide advice and support on more complex cases that they may not have been able to due to differing demographics and climate conditions.

Connecting local dermatologists with metropolitan-based colleagues has been viewed favorably by those involved in the project. Both TUH trainees and consultants have had the opportunity to upskill in leading diagnostic techniques and apply these learnings to TUH, a regional hospital, cultivating a positive culture towards rural training.

The link with MIA has enhanced access to peers, education, networking opportunities and wellbeing support for TUH trainees and consultants and improved the wellbeing and work-life balance for those practicing in rural/remote areas.

As intended, FATES funding was seed funding and the project provided TUH with the initial resources upon which to embed and build the capacity and capability of the rural dermatology workforce in Far North Queensland.

This model has allowed TUH to better utilise the time of clinical staff and facilities, which has alleviated the supervisory burden from the TUH-based consultant.

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The FATES funding provided the increase in supervisory capacity and link to external expertise which has enabled the TUH Dermatology Department both to optimise use of existing resources (i.e., STP-funded position, state-funded position) and to attract additional hospital and state investment to create a world class melanoma service and attractive training hub for the region.

From the perspective of sustainability, the project has also allowed ACD to allocate additional training positions to North Queensland (1xSTP-funded TUH; 1xIRTP North Queensland), and to leverage learnings from FATES to successfully secure funding under Queensland's Department of Health, Medical Practitioner Workforce Plan for Queensland (MPWP4Q) to support consultant and supervisory capacity in North Queensland. This contributes to ensuring that the new dedicated training position and pathway for North Queensland – which enables candidates with established connections to the region to undertake most of their training in the region – is well supported.

Additional benefits in growing the Aboriginal and Torres Strait Islander workforce.

To complement the project, TUH employed a First Nations Principal House Officer (PHO) as an addition to the TUH Dermatology Department. This allowed the PHO to gain experience in dermatology and benefit from exposure to dermatologists and other members of the dermatology team that otherwise may not have been possible.

The First Nations PHO was successful in applying to the ACD training program, commencing 2024. This is a positive outcome for Queensland and highlights that value of creating opportunities for First Nations medical students and doctors to gain practical exposure to dermatology as a career pathway.

Conclusion

This project is proof-of-concept that networked models of hybrid education and supervision – that linking a rural tertiary institution with a high burden of a particular disease with a metropolitan centre of excellence – are feasible and effective in boosting regional workforce and training capability and capacity, and access to clinical sub-specialty expertise, while improving patient outcomes.

It is to be noted that as a direct result of the FATES project, Queensland Health and TUH continue to demonstrate their initial and ongoing investment in dermatology services, and commitment to building a homegrown rural workforce.

It is well known that the long-term solution to rural workforce retention is to recruit and train locally, however, innovative and solution-focused models like this FATES project need to be considered as important building blocks towards this long-term solution.

Therefore, medical colleges are well placed to lead collaborative solutions like these that bring Federal and State/Territory funding together to build supervisory, training and service delivery capacity in regional, rural and remote Australia, all of which are critical to enabling a homegrown workforce.