



HOT NORTH IMPACT REPORT




"By providing a collaborative platform that ignored geographical borders, organisational hierarchies and disciplinary silos, we unleashed enthusiastic conversations and shared experiences between people with more similarities than differences..."

HOT NORTH

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HOT NORTH Core Partners



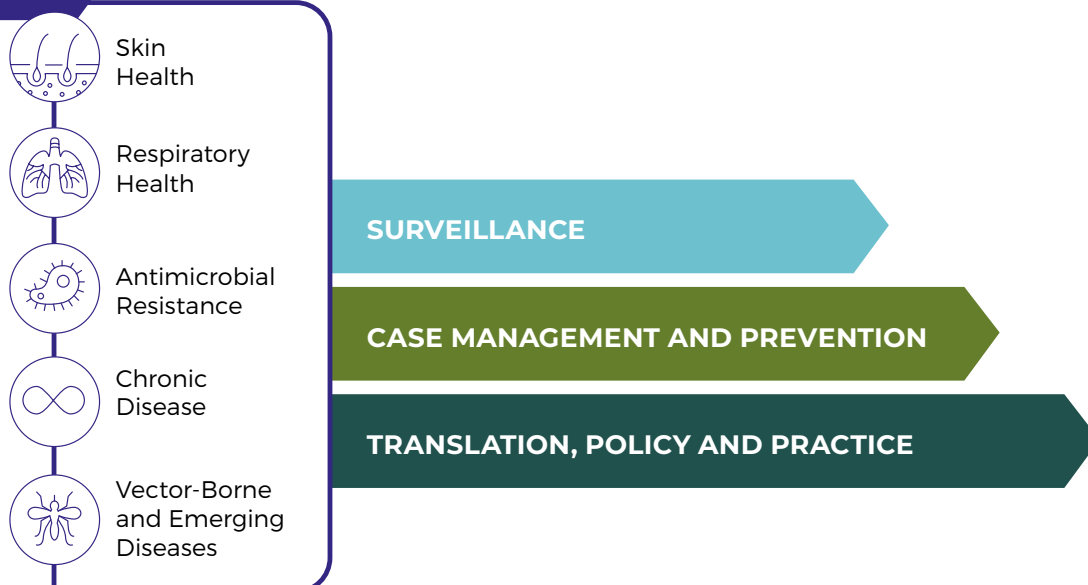
Offshore Partners



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HOT NORTH THEMES AND STRUCTURE





MESSAGE FROM THE DIRECTOR

In 2017, the HOT NORTH (Improving **H**ealth **O**utcomes in the **T**ropical **N**orth) program set out to address two major challenges to improving healthcare in northern Australia and neighbouring countries:

- building capacity for local research into priority issues; and
- ensuring that lessons from research are made available to health staff throughout the region - knowledge is power for change.

HOT NORTH approached these challenges by focusing on value-adding to three components of the health research ecosystem:

- researcher retention and recruitment;
- researcher-practitioner collaborations; and
- on-country knowledge translation.

We developed a program of activities that:

- created opportunities for communities and researchers across the north to come together to discuss health needs;
- used local expertise to allocate funding to researching priority issues; and
- actively took research knowledge out to remote and regional health practitioners.

The HOT NORTH Indigenous Governance Committee played a key role in managing how the program engaged with communities and encouraged Aboriginal and Torres Strait Islander participation in the program.

In this report, you can read about some of the impacts of HOT NORTH, through the personal reflections of participants and stakeholders, presented in the form of 12 case studies. It was undoubtedly the people involved that made HOT NORTH a success.

By providing a collaborative platform that ignored geographical borders, organisational hierarchies and disciplinary silos, we unleashed enthusiastic conversations and shared experiences between people with more similarities than differences, despite being up to 4,000 km apart.

I believe that the legacy of the HOT NORTH program will be a cohort of researchers and participants who are passionate about improving the lives of people living in tropical regions and who know that working together on local solutions is the best approach to sustainably improving healthcare in remote and regional locations.

– Professor Bart Currie



Health researchers and health professionals from across the north of Australia at the 2018 HOT NORTH Annual Scientific Symposium. Pictured with the Upai Purri Dance Group bottom right.

OUR RESEARCH LEADERS

Chief Investigators



Professor Bart Currie
Menzies School of
Health Research



Professor Jonathan
Carapetis AM
Telethon Kids Institute



Professor Anne Chang AM
Menzies School of
Health Research



Professor John McBride
James Cook University



Professor Nick Anstey
Menzies School of
Health Research



Professor Gail Garvey
Menzies School of
Health Research



Professor Louise Maple-Brown
Menzies School of
Health Research



Professor Steve Graham
Burnet Institute



Professor Cameron Simmons
Doherty Institute
(University of Melbourne)



Professor Tania Sorrell AM
Marie Bashir Institute
(University of Sydney)

Associate Investigators

Professor Alex Brown
South Australian Health and
Medical Research Institute

Professor Anna Ralph
Menzies School of Health Research

Professor Cheryl Jones
University of Sydney

Dr Christopher Blyth
Telethon Kids Institute

Professor James McCarthy
QIMR Berghofer Medical
Research Institute

Dr Josh Hanson
Menzies School of Health Research

Professor Ric Price
Menzies School of Health Research

Associate Professor Steve Tong
Doherty Institute (University
of Melbourne)

Professor Robyn McDermott
James Cook University

Professor Scott Ritchie
James Cook University

Indigenous Governance Committee

Heather D'Antoine
Chair
Menzies School of Health Research

Professor Alex Brown
South Australian Health and
Medical Research Institute

Dr Sean Taylor
Menzies School of Health Research

Professor Gail Garvey
Menzies School of Health Research

Glenn Pearson
Telethon Kids Institute

Vicki O'Donnell
Kimberley Aboriginal
Medical Service

Project Management Team

Dr Kevin Williams
Program Manager

Sean Rung
Communications Officer

Janine McNamara
Kimberley Coordinator

Kristen White
Western Australia Coordinator

Suzanne Forbes
North Queensland Coordinator

WHAT IS HOT NORTH?

HOT NORTH is a five-year (2017-2021, NHMRC grant 1131932) research program led by Menzies School of Health Research in Darwin. The program is a multidisciplinary collaboration involving eight of Australia's leading health research organisations.

Headquartered in the Northern Territory, and covering an area from the Pilbara and Kimberley in Western Australia to Cape York and the Torres Strait Islands in Queensland, HOT NORTH is a health research, translation and capacity building partnership contributing to the healthcare needs of the north. As identified in the Commonwealth's *Our North, Our Future: White Paper on Developing Northern Australia*, tropical medicine and healthcare services are a key pillar to unlocking the potential of northern Australia.

The first three years of HOT NORTH saw the establishment of 97 research activities that included pilot projects, fellowships and scholarships. These activities were instrumental in building the capacity of emerging researchers.

These researchers formed collaborations with 23 additional research organisations across Australia and South-Asia. More than 80 health organisations such as health departments, hospitals and Aboriginal Medical Services also participated in these HOT NORTH projects.

HOT NORTH established an annual series of community engagement workshops in remote towns and cities across northern Australia. By the end of 2019, 15 workshops had been conducted with 1631 participants, and 290 presentations from Indigenous and non-Indigenous researchers. These workshops provided opportunities for local health professionals to meet university-based researchers and discuss research ideas that work towards closing the health gap between Indigenous and non-Indigenous Australians.

The HOT NORTH program supports researchers and practitioners working on improving health of all people living in northern Australia, with a strong focus on closing the gap in Indigenous health disadvantage. More than two-thirds of HOT NORTH funding awards are to specifically address the main diseases causing Indigenous health disadvantage, such as youth and maternal diabetes, rheumatic heart disease, respiratory infections and skin diseases. Remaining funding supports research into emerging health threats, such as antimicrobial resistance of tropical diseases, which disproportionately affect Aboriginal and Torres Strait Islander populations.





573



People participating in HOT NORTH-supported projects

\$3.9M

97
AWARDS

47 Research Projects

23 Fellowships

14 Scholarships

13 Indigenous capacity building training awards

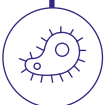
5 CORE THEMES



Skin Health



Respiratory Health



Antimicrobial Resistance



Chronic Disease



Vector-Borne and Emerging Diseases

REGIONAL ENGAGEMENT

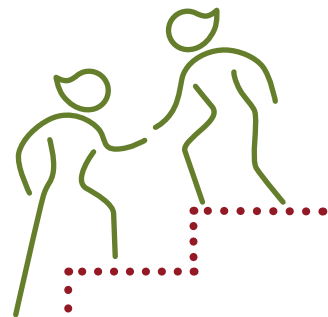
15 Regional Workshops with a total of

1631 Participants learning from

130 MEMBERS

Women in Tropical Health Network

290 Presentations



COLLABORATIONS BETWEEN

23 Research Organisations



80 Implementation Organisations



INDIGENOUS GOVERNANCE COMMITTEE

From its inception HOT NORTH has been guided by its Indigenous Governance Committee (IGC) – a group of Indigenous leaders with many years' experience in working towards improving health outcomes for Aboriginal and Torres Strait Islander peoples.

Under the leadership of Heather D'Antoine, the IGC led development of HOT NORTH's guiding principles at the very first HOT NORTH workshop in Broome, Western Australia. These principles have been central to the creation of respectful research collaborations with communities across the north of Australia.

Guiding Principles

culture, values, diversity, acknowledgement, translation, knowledge, leadership, opportunities, strength



HOT NORTH Research Themes

The IGC developed a grant program of Indigenous Training and Development Awards that has funded 13 awards to date, worth a total of \$170,000. With Heather participating in every HOT NORTH regional workshop and annual scientific meeting over the past three years, her reflections and guidance, and those of the IGC, have helped shape our research and translation activities over the course of the program. The influence of the IGC on HOT NORTH's strategic direction and processes has resulted in a third of HOT NORTH funded projects having Aboriginal and Torres Strait Islander participation as researchers, health practitioners or in outreach roles.



Chair of the IGC, Heather D'Antoine, addresses participants at the Katherine, Northern Territory HOT NORTH workshop.

IMPACTS NOW AND INTO THE FUTURE

In addition to the capacity-building and knowledge translation impacts from the HOT NORTH program (showcased by the personal stories in the later sections of this report), on-ground health improvements have been achieved through changes to policy and practice from our activities. Impacts will continue to accrue into the future as more recommendations from HOT NORTH's research outputs are adopted by the health sector.

Ultimately, the connections among researchers, practitioners, and communities, facilitated by the HOT NORTH program, may be one of the most important legacies of the program. HOT NORTH has shown that there is an underutilised capacity for sharing culturally and geographically appropriate learnings across borders, across the urban-regional divide and across disciplines and hierarchies.

Some examples of the impacts from the first four years of the HOT NORTH program to date:

- The *Plasmodium knowlesi* malaria research, by Matt Grigg and team, changed Malaysian national treatment policy and provided the evidence base for updated WHO Global guidelines and Australian malaria treatment guidelines. HOT NORTH co-funded a randomized trial that found artemether-lumefantrine (AL) to be a highly efficacious treatment. Its excellent tolerability and rapid patient response has led to **faster recovery time and earlier hospital discharge**.

“normalisation” of chronic wet cough among clinicians across northern Australia, resulting in **important improvements in quality of care** for children at risk of bronchiectasis.

- Healthy skin research, such as the SToP trial led by Asha Bowen has resulted in the *National Healthy Skin Guideline*, a new tool **now widely used across the remote health sector to prevent and manage skin infections**.

- The Communicate study led by Anna Ralph increased access to Aboriginal language interpreters at Royal Darwin Hospital. Within its first year of intervention, there was a **significant decrease in self-discharge rates** for Aboriginal inpatients during that time.



- The HOTspots surveillance system, developed by Teresa Wozniak with colleagues across the three northern jurisdictions, enables health workers and policy makers to access real-time data on antimicrobial resistance patterns, supporting **more rational and strategic use of antibiotics**.

- Mosquito-borne virus surveillance methods, developed by HOT NORTH investigators in Scott Ritchie's Queensland group, are now **used by multiple State and Commonwealth authorities to monitor for incursions** of Murray Valley and Japanese encephalitis viruses.

- The HOT NORTH Diabetes in Youth collaboration, led by Louise Maple-Brown, has become a strong advocate for better prevention and care. Clinicians and health providers across the Kimberley, Northern Territory and Far North Queensland report that engagement with the HOT NORTH collaboration has **led to a marked increase in screening and diagnosis for Type 2 diabetes in people under 25**, with Darwin-based paediatric and adult endocrinologists receiving more referrals for young people diagnosed with the condition.

- Child lung health communication tools developed by Pam Laird in Western Australia have begun to reverse the

'It would be so wonderful if more health services did the sorts of things that HOT NORTH does... they come with an open heart and walk with us on our journey to find answers and to innovate. It's exciting to see that things can change... going forward as a nation we all benefit from it.'

-Elaine Clifton (see page 22 for story)



Elaine Clifton (L) and Kylie Stothers at a HOT NORTH workshop in Katherine, NT.

CASE STUDIES

CAPACITY BUILDING

Health researchers and medical professionals in the north face unique opportunities and challenges not found anywhere else in Australia.

Northern Australia's geographical proximity and economic ties to Southeast Asia mean biosecurity threats present real health and economic risks. Emerging infectious diseases such as dengue fever, malaria, melioidosis, multi-drug resistant tuberculosis, and other emerging pathogens, require a specialised research and medical workforce with the ability to respond cross jurisdictionally and internationally. In addition, the increasing incidence of chronic diseases, and the emergence of antimicrobial resistance in existing pathogens, add to the health challenges affecting the population of northern Australia.

By working in the north, health professionals gain valuable hands-on experience and access to important networking and mentoring programs that lead to a healthier and more secure northern Australia. However, the same geographical characteristics that present specialised opportunities also bring the tyranny of distance and professional isolation. This can lead to difficulties in accessing high-quality education, training and professional development opportunities, which exacerbate the ever-present issues of workforce recruitment and retention.

HOT NORTH directly supports the strengths of the north and addresses challenges through programs that link individuals and organisations, strengthen cross jurisdictional and international partnerships, and provide career and professional upskilling opportunities designed for the needs of health research and medical professionals across the north. We do this by:

- funding scholarships for undergraduate and PhD students to attract the next generation of leaders to the north;
- awarding fellowships for early and mid-career researchers to help establish a track record, develop research ideas, and create cross jurisdictional and international partnerships; and
- creating mentoring networks to help compensate for professional isolation caused by geographical distance.

Four case studies exemplify how HOT NORTH pilot project funding, fellowships and mentoring networks have strengthened the capacity of our health researchers, while improving on the ground policy and practice are presented in this section.





'You've got to build enough capacity to build capacity... it can be hard to make a start.'

Ruth Barker (L) and Leann Shaw presenting at the HOT NORTH workshop in Mt Isa, Queensland.

Ruth Barker

PILOT PROJECT

Gaining traction for Allied Health research in remote communities

Ruth Barker faced a pervasive obstacle to developing evidence-based allied health services together with Aboriginal and Torres Strait Islander communities.

'If you put in an application for NHMRC then our track record can't compete.'

With very few allied health professionals, and even fewer career researchers in remote northern Australia, putting together a team of investigators that will attract funding is a huge challenge. Clinicians have valuable insights for innovation, but are often too busy working on the ground to navigate the barriers involved with developing a research profile while living far from a university.

HOT NORTH pilot grant funding alleviates those barriers by prioritising sound research design and potential for health impacts above track records. This modest investment was enough to get Ruth's team up and running to trial a model for student-led, culturally responsive allied health services for older Yolŋu people, designed cooperatively with local stakeholders in East Arnhem.

Occupational Therapy and Speech Pathology students worked with two Yolŋu Cultural Consultants to deliver services tailored to what each client valued most. For many, improving social participation and communication were priorities.

The trial demonstrated a rich two-way learning process between the students and Yolŋu. One community member explained that,

"They worked well with my family within my home, and it was a good experience for them coming to community. They can learn from us, and we can learn from them."

It also showed a way forward for filling health services gaps in East Arnhem, documenting a model for quality care that was valued by community members.

"Yes, I would love to have students again and ongoing. There is a real need for this assistance within the entire community as current supports are inadequate."

"[They were] looking after our wellbeing, totally different from other services we have."

Ruth sees targeted funding programs based up north as crucial to such innovations.

'If we want to make some changes in northern Australia, you can keep funding people as we'd say "down south" but it doesn't change a lot.'

Tim Barnett

FELLOWSHIP

Laboratory research
shaped by community experience



Tim Barnett's research has always been driven by a passion for science, but the past few years have sparked new motivation and momentum.

Group A Streptococcus, the bacteria at the centre of Tim's research, kills half a million people each year worldwide. Two-thirds of these deaths result from rheumatic heart disease (RHD), a complication produced when the body's immune response to recurrent Strep A infections scars the heart valves.

Tim explains that working with Telethon Kids Institute and getting out into communities affected by RHD has shifted his approach to research.

'I never really had that personal connection to people that suffered from Group A Strep diseases until I got the opportunity to go up to the north and meet Aboriginal people who are on the frontline of this pathogen.'

One young girl, in particular, stands out in his mind from a visit to a school in the Kimberley.

'I could see how worried she was about getting a sore throat, because for her that might mean death.'

RHD makes typical childhood activities like running and playing with other kids dangerous, and seeing how this had limited this little girl's social life made an emotional mark on Tim's memory. Experiences like these, he explains, really emphasise the importance of targeting scientific inquiry to make life better for kids like her.

Beyond adding inspiration, working with HOT NORTH has provided practical advantages too. Close collaboration with remote health experts like Jonathan Carapetis and Asha Bowen brings a breadth of insight and expertise that enables Tim to target his lab work to address specific gaps in prevention and treatment.

'HOT NORTH gave me the opportunity to see directly where my efforts could help... It's made me a lot more passionate about what I do... Now I approach projects asking big questions and trying to make a difference.'

Alice Cairns

REMOTE FELLOWSHIP

Walking roads less travelled: Career pathways
for health researchers in remote Australia



'Without HOT NORTH I wouldn't have been able to continue with a strong research career.' -

Dr Alice Cairns on carrying out a postdoctoral fellowship in the remote community of Weipa in Queensland.

Alice Cairns had a big decision to make

when her family moved to the remote town of Weipa, enabling her partner to work there as a doctor. She was just finishing her PhD and wanted to move forward with her research, but was it a realistic pathway to pursue so far up north?

Post-doctoral research in remote Australia is almost unheard of, and it would be even more difficult in Alice's field. 'It's a challenge to fit something broad like community rehabilitation into research applications'.

Yet the need for innovation was clear. Discussions with local health services emphasised the community's aspiration to better support elders and people with disability. Alice had the skills to evaluate and supervise an approach led by medical and allied health students. HOT NORTH was the springboard that set the idea into motion.

The rehabilitation service developed by Alice and her team now drives a whole-of-community approach to help people age well in Weipa. Students drawn from metropolitan areas for clinical placements gain important perspective on remote health settings, building a new generation of healthcare providers with greater awareness of Australia's biggest health challenges.

For Alice, connecting with a professional group of researchers who understand northern contexts has been critical to building the track record needed to continue supporting health innovation in Weipa.

'It's really important that the government looks at unique ways to support rural and remote health research. Traditional funding bodies that don't specifically earmark a percentage of funds for rural and remote places put us at quite a disadvantage... otherwise you will lose these skills in these areas.'



‘My research has really taken off... it has a lot more depth, rather than just being pure academic research, it’s now taken on a form that has direct impacts on the people suffering from the diseases that we’re researching.’

Tim Barnett

Teresa Wozniak

MENTORING AND NETWORKS

Building peer support for Women in Tropical Health

The progression of women within academia is different from their male counterparts, and women have a lot to offer the health workforce.'

When Teresa Wozniak first moved to Darwin she had a lot of research ideas, but very few people to share in them. The professional isolation she faced set this new place apart from her previous home in Sydney, and she wanted to do something about it.

Conversations with colleagues in remote northern locations revealed that many were struggling to build professional connections, especially women.

Teresa's idea of beginning a network and mentorship program for women pursuing careers in tropical health was met with strong support from HOT NORTH. Discussions began with Anna Ralph, Louise Maple-Brown, and Debbie Hall to put the idea into motion.

The HOT NORTH Women in Tropical Health (WITH) Network was established in 2016 and now connects 150 members of the health workforce across different locations and disciplines. The network is inclusive of all fields related to health, and has members across varying professional levels and interests all invested in improving health outcomes for rural and regional Australians.

Once a month, members of the network gather to talk about a topic of interest, sometimes inviting a speaker.

'Even if only 20 people attend, it makes a difference having a support network and a safe place to talk about things that are important and common among all of us, despite being in different geographic and professional "places".'

In the network's first year, guest speakers were usually health professionals sharing insights and experiences for inspiration. More recently, the network has shifted toward skills-oriented speakers, such as resilience trainers. In March 2019, the network launched *Catalyse*, the first mentorship program of its kind, supporting a cohort of 10 WITH network mentees. This program pairs women early in their careers with academic and corporate leaders who provide advice, encouragement and support.

The WITH Network joins efforts with other peer support mechanisms such as the NT Government funded Women in Leadership (WIL) Network, which now includes WITH members in its events invitations. Teresa explains that this sort of cross-pollination is key to the network's strength and sustainability:

'The more multidisciplinary we are the more we'll be able to cope with health challenges... a network can start off with a few people who are passionate but it needs to end up somewhere more formal and connected.'

Women in Tropical Health **NETWORK**



Teresa Wozniak (L) with Michelle Walker after a Women in Tropical Health Network Lunchtime Club meeting.

Catalyse Mentorship Program

Advancing Women Scientists in Indigenous and Tropical Health

PARTICIPANTS IN THE FIRST YEAR OF THE PROGRAM REPORTED:



Personal impact

- 80%** of mentees reported an increase in feeling interpersonal connectedness in the workplace
- 62%** of mentees reported an increase in job satisfaction
- 10%** of mentees reported an increase in their technical skills



Meet ups

- 65%** of mentees met with their mentor one to three times
- 35%** of mentees met four or more times
- Meetings with corporate mentors were more frequent



Supporting mentees

- 67%** of mentees spent their bursary on conference or meeting attendance
- 22%** of mentees spent it on childcare
- 10%** of mentees spent it on career guidance



Mentor/mentee connection

- 87%** of mentees felt matched with a compatible mentor
- 95%** of mentors were happy with their match
- 75%** of mentees found the dual mentor model very useful

Find out more at hotnorth.org.au/catalyse

Women in Tropical Health
NETWORK

HOT
NORTH

menzies
school of health research



TRANSLATION

In addition to building the capacity of health professionals across the tropical north, HOT NORTH facilitates opportunities for health researchers and practitioners to translate high-quality, culturally aware, and evidence-based research into impactful policy and practice.

As a large proportion of its population comprises Aboriginal and Torres Strait Islander people, the north of Australia requires health policies and practices that are culturally safe and responsive to the needs of First Nations people.

By partnering with communities and building trust and relationships, HOT NORTH researchers, and the communities they work with, are co-designing evidence-based programs that bridge the cultural divide and translate to real on the ground solutions.

The following projects demonstrate how HOT NORTH creates a space for researchers, practitioners and communities to come together to produce practical and mutually beneficial health measures.



Diana Mosca (R),
RHDAustralia

Pam Laird

RESOURCE CREATION

Better communication about child lung health

'It's like a wildfire of knowledge has gone off in the Kimberley.'

When Pam Laird began researching how to reach children at risk of chronic lung disease earlier, she never expected the response to be so rapid and strong.

'One thing we've learned is you don't need expensive media campaigns, you can keep it simple but you need to work in partnership with communities and ensure the message is provided in a culturally secure way – then it's amazing how fast it's being spread.'

Pam recognised, as a clinician treating children in Western Australia's north, that many Aboriginal children were being diagnosed with severe and permanent lung disease too late. Chronic wet cough, a tell-tale early warning sign, was so widespread that communities and clinicians had come to think of it as normal.

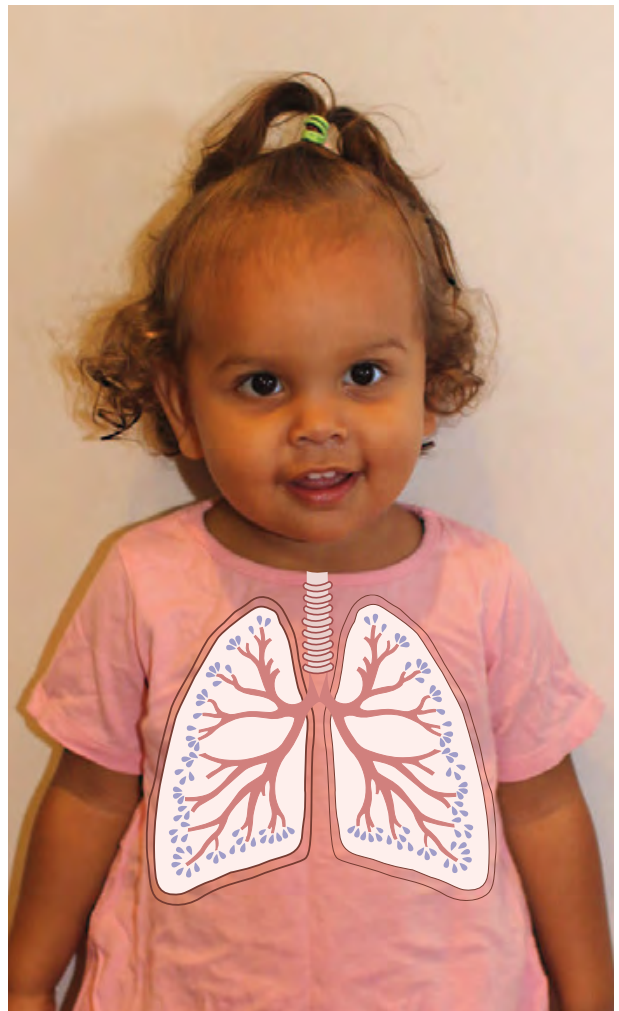
Pam suspected that the solutions were likely simple, but funding to develop them would be crucial. 19 grant applications later, the project's future was insecure.

HOT NORTH reviewers were familiar with the challenges posed by communication gaps in remote health, and supported the research. This enabled Pam to focus on it full time, and collaborate with leading experts to improve its quality and effectiveness.

The result has been exciting: the number of families seeking medical help for children with chronic wet cough almost tripled, plus significant improvements in the quality of treatment by clinicians. Community members have been hugely supportive of Pam's work, reporting benefits like *'Parents are now empowered about cough and doctors will listen'*.

Some speak directly about benefits of posters and other communication tools developed by Pam's team. For example, one mother explained that *'I saw the sign in clinic when I came for something else. If it wasn't for the poster I would have never thought to mention the cough.'* Mentioning the cough, in this case, led to early detection of bronchiectasis, which saved her child's lungs.

Word has spread quickly, and Pam is now receiving invitations from Aboriginal communities all over the Kimberley and Pilbara to expand her work. Clinics across the north are also expressing interest in using similar techniques to co-design communication tools for other chronic diseases in partnership with the communities they serve.



Asha Bowen

ANTIMICROBIAL RESISTANCE ACADEMY

Cooperation to keep skin sores and 'superbugs' under control

Asha Bowen brought a collaborative, hands-on approach to her fellowship research that aligned strongly with the aims of HOT NORTH. Based at the Telethon Kids Institute, Asha's work has been instrumental to breaking down silos and fostering cooperation between researchers and remote health workers across the Kimberley to inform better prevention and treatment of skin sores.



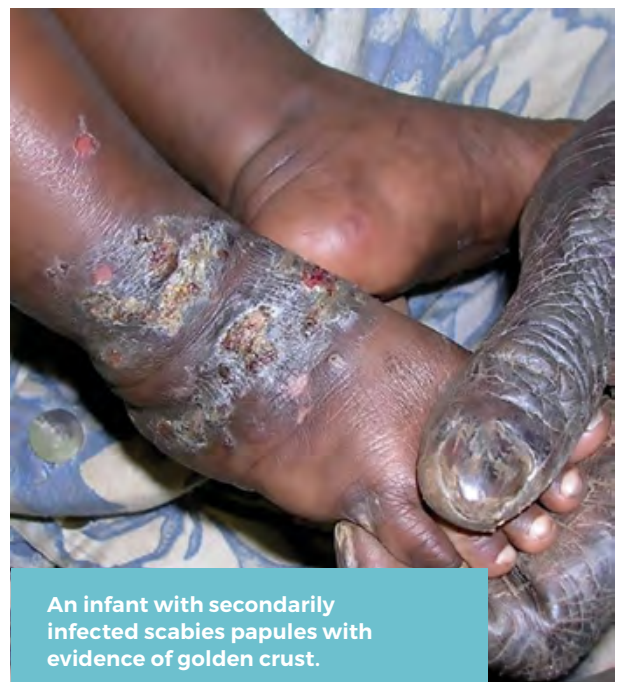
'HOT NORTH has given me opportunities to network and collaborate across the region and to do things that are sometimes challenging.'

Asha explains that one of the most challenging – and crucial – elements needed to translate research into practice is building relationships that enable the health workforce to embrace unfamiliar knowledge and activities. In remote settings, especially, it takes time to figure out who needs to be in the room, develop trust, and support health workers to implement change in their organisations. Working with highly experienced remote health specialists and participating in investigator meetings has enabled Asha to strengthen this aspect of her work.

'That opportunity to learn from those who are leading HOT NORTH has been a really important opportunity for me.'

These skills are being put to good use in her most recent project, the Antimicrobial Academy for Aboriginal and Torres Strait Islander Health Care Providers, established by HOT NORTH to deliver training and develop a strategy for combatting 'superbugs' in remote health settings. Skin sores are the most frequent reason for antibiotic usage in the tropical north, but preventing resistance to those antibiotics is an emerging science that remains inaccessible to many healthcare workers.

The Academy will engage remote health workers, who are on the frontline of skin sore management in their communities, to fill a major gap in the national strategy for antimicrobial resistance. The strategy currently makes no mention of remote or Aboriginal and Torres Strait Islander health, despite alarming rates of certain 'superbugs' appearing in the tropical north.



An infant with secondarily infected scabies papules with evidence of golden crust.



OFFSHORE PROJECTS

With projects in Malaysia, Indonesia, Papua New Guinea and Timor-Leste, HOT NORTH supports research on tuberculosis, malaria, rheumatic heart disease and antimicrobial resistance, as well as surveillance and research translation activities.

These activities serve to give clinicians the tools to improve health outcomes in resource poor areas and in turn strengthen Australia's ability to monitor, prevent and manage potentially serious biosecurity threats coming in through our northern borders.

The following stories demonstrate how HOT NORTH's research is shaping policy and practice aimed at preventing TB in children around the economically disadvantaged district of Mimika in Papua, Indonesia and improving treatment and reducing transmission of malaria in the Sabah province of Malaysia.

Rin Wahyu Iriani, MD,
doctor at Timika Jaya
Primary Health Centre.

Trisasi Lestari

PHD SCHOLARSHIP

Bridging the divide between policy and practice in Papua

Indonesia's national tuberculosis (TB) control policy focuses on young children, who face a high death rate once infected. Identifying children living in households with TB patients and providing them with preventative treatment is a cornerstone strategy that saves lives.

Trisasi Lestari found, however, that the policy was not being implemented in Papua Province, where health demands are high and resources scarce. HOT NORTH supported Dr Lestari to conduct the first ever study of TB policy implementation in the economically disadvantaged district of Mimika, and develop methods for putting policy into practice. Training health workers on contact tracing and prevention in young children was a key component.

The results have generated remarkable changes. More than five times as many children aged 0-5 (n=264) received preventative treatment in 2019, compared to 2017 when the study began (n=45). The Provincial Health Office quickly took note:

'Now that they see there are many children receiving preventative treatment... they realise it is possible to implement this program in Papua... If it works in Mimika it should work in other districts as well.'

Collaboration with the HOT NORTH-supported Papuan Health and Community Development Foundation and Indigenous Papuan research clinician, Dr Enny Kenangalem, has been key to translating research and policy into practice. Plans are now under way to scale Dr Lestari's training interventions to other districts in Papua under the auspices of the Provincial Health Office.

The team has also begun to expand their work to address particular needs voiced by health workers, such as specialist training for maternal and child health nurses on TB in pregnancy. They have also made a video featuring parents of children who have completed treatment, as preventative medication is a new concept for many families and materials were needed to help raise awareness.



Matt Grigg
FELLOWSHIP

Translating malaria research into policy and practice in Sabah



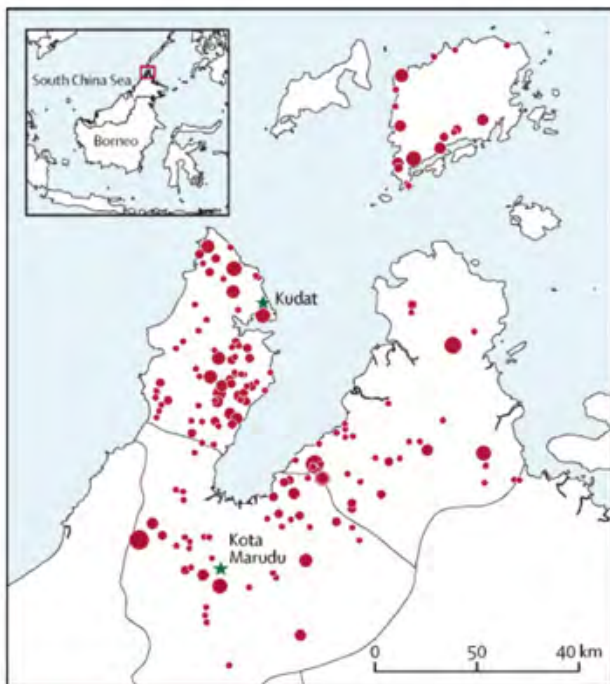
Matt Grigg's PhD research was wrapping up in the right place at the right time with the right people. Continuing to innovate in his niche area of malaria control, however, would require him to bridge the funding gap that stood before him.

In the Sabah province of Malaysian Borneo, most forms of malaria have been nearly eliminated. Zoonotic malaria, however, was on the rise. Matt began his studies there in 2011, developing important insights on how to improve treatment and reduce transmission. After completing his PhD research, more work was needed to build on its findings and translate into policy and practice that could save lives.

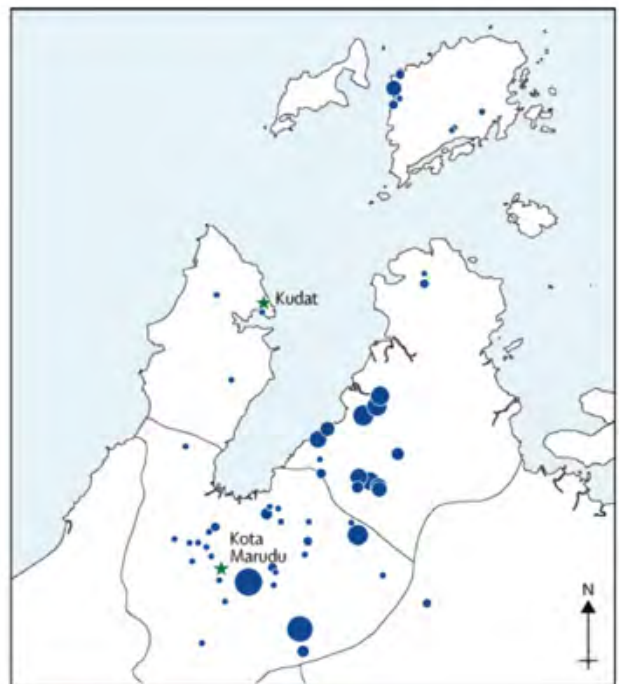
'The period just after your PhD is a time when you're really looking for solid post-doc positions. Do I need a new skill-set? Do I need to move? Do I need different types of supervision? Those things were all still ticked off here and that enabled me to stay... We had already built all those research collaborations and the whole structure in Sabah. HOT NORTH provided the salary support to continue working there and also the project support to start newer studies and have the certainty of retaining the research staff, training and the pre-existing set-up that we had over there.'

This positioned Matt to generate research that has been instrumental to improving national and global treatment guidelines for zoonotic malaria, as well as prevention activities. His latest project is developing geospatial mapping tools that will enable public health officials to assess the risk of outbreaks even when ground-level research is not available.

In Matt's experience, getting these sophisticated tools in use is 'often the most challenging bit, almost a full-time role in itself'.



Plasmodium knowlesi cases per village
 • 1 • 5 • 10 ★ District hospital



Other Plasmodium spp cases per village
 • 1 • 5 • 10 ★ District hospital

WORKSHOPS

HOT NORTH holds a series of regional workshops and meetings across the north of Australia every year. These events provide local researchers and health professionals, especially those with limited ability to travel, opportunities to strengthen relationships with peers and facilitate learning experiences to develop and transform health practices.

HOT NORTH believes that by holding workshops from South Hedland in the west, to Thursday Island in the east, we form linkages connecting health professionals across the north and build long-standing collaborations.

These workshops help identify local knowledge gaps and respond to those gaps with research and practice measures supported by some of Australia's most respected researchers, clinicians and health professionals.





Elaine Clifton

WA WORKSHOPS

Community level engagement

'Professional and committed, but down to earth.'

Elaine Clifton's enthusiasm about participating in HOT NORTH knowledge-sharing workshops is energising.

'I've been all around Australia with my work, but I can tell you that for me, HOT NORTH was the most interesting... we were all listening, actively listening.'

Elaine began working as an Aboriginal Community Researcher for the Telethon Kids Institute after thirty-six years working in public service.

'The majority of [HOT NORTH] research is done on our people – this was another way of them giving back, giving the information back to us.'

The workshops invite Aboriginal health providers and the broader community to engage with leading researchers from multiple health fields. For Elaine, speaking with Tim Barnett about rheumatic heart disease was illuminating.

'I said, "My sister was born with that disease" and he let me talk and say what I thought and then explained that children are not born with it, there is a cause and it can be prevented... [Afterwards I realised] half the community knew someone with RHD but no one had talked about it! Like her sister, plenty of them had never known the cause.'

Elaine describes working with HOT NORTH to organise a workshop in her hometown of Port Hedland as empowering, inclusive, and respectful of community ownership.

'It would be so wonderful if more health services did the sorts of things that HOT NORTH does... they come with an open heart and walk with us on our journey to find answers and to innovate. It's exciting to see that things can change... going forward as a nation we all benefit from it.'

Telethon Kids Institute Kimberley Coordinator, John Jacky, attended HOT NORTH workshops in WA, NT and QLD.



One Disease CEO, Michelle Dowden, presenting at a HOT NORTH workshop in Broome, Western Australia.

Chris Pickett

COMMUNITY LEVEL CONSULTATION WORKSHOPS

Locally led professional development in the Pilbara

As Regional Advisor for Rural Health West, Chris Pickett knows that professional development is crucial to retaining health workers in remote Australia. He also knows that high quality learning opportunities are difficult to arrange in the Pilbara.

'It's important to do as much as we can, as close to home as possible... dragging people out of their workplaces to participate in educational events in the cities, even Perth, takes them away for days. And it's expensive.'

So Chris was keen to help organise a HOT NORTH research translation workshop in Port Hedland. He describes it as *'probably the most high profile event of the year'* and attributes this success largely to the organising process, which brought together key health leaders such as the CEOs of three Aboriginal medical services, the Regional Manager of the WA Primary Health Alliance and the Regional Manager of WA Country Health Service.

These leaders, coordinated by Janine McNamara of Telethon Kids Institute, developed a program based on the strategic priorities of the Aboriginal Health Partnership Forum. The majority of presenters were Aboriginal and Torres Strait Islander researchers and community health professionals. Highlights included Yarlalu Thomas, whose work on the Pilbara Faces project earned him the WA Young Australian of the Year award for 2020.

The presentation by James Ward, who is working to reduce sexually transmitted infections in remote WA, also stands out in Chris's mind. James connected with the CEOs of Aboriginal medical services at the workshop, prompting continued collaboration to extend his research to the Pilbara.

One community member commented that it was the *'best conference or workshop she's been to'*, and Chris hopes that HOT NORTH will be able to deliver more. He also sees room for improvement. Some researchers may benefit from coaching, for example, to speak about their work in ways that are more accessible to a broad audience. Chris's advice is to *'keep things relevant, give people a clear honest indication that they are being involved in the process – doing it with them, not to them – and address issues that are important to local people'*.



Chris Pickett speaking at the HOT NORTH workshop held in South Hedland, Western Australia.

INDIGENOUS DEVELOPMENT AND PERSPECTIVES

In 2018, HOT NORTH rolled out the *Indigenous Development and Training Awards*. This followed the guidance of the HOT NORTH IGC and input from Aboriginal and Torres Strait Islander leaders across the north calling for more participation in health provision by Aboriginal and Torres Strait Islander people.

The purpose of the Indigenous Development and Training Awards is to build long-term high-quality clinical, public and allied health capacity in the Aboriginal and Torres Strait Islander populations of northern Australia so that health care is provided by members of their local community in culturally safe environments. Awards support development opportunities for Aboriginal and Torres Strait Islanders studying or working in the health sector in northern Australia in any capacity.



Jaquelyne Hughes

Supporting community owned health agendas

It was clear to HOT NORTH that Jaqui Hughes was an emerging leader, and that her research on patient-centred renal care offered crucial insights for improving policy and service delivery.

Dr Hughes' work shows how bringing patient and community voices front and centre can result in better care for Aboriginal and Torres Strait Islander people. Engaging people in rural and remote areas to establish a health agenda, and generating community ownership and locally-led policy translation, however, are activities rarely funded by research grants.

HOT NORTH invested a modest amount of funding to enable Dr Hughes to become more active in her collaborations with communities battling high prevalence of kidney disease.

Respect for her cultural authority, as a Torres Strait Islander researcher, was built into the funding structure, which leveraged her leadership capacity and put her in the driver's seat. The autonomy afforded by the grant guidelines strengthened her ability to translate evidence into advocacy, amplify community voice in shaping health policy and services, and respond to opportunities for impact as they evolved.

One opportunity to add value to her research was an invitation from Canberra to discuss the National Strategic Action Plan for Kidney Disease. Dr Hughes was able to involve community contributors to successfully advocate for appropriate decisions at the federal level.

Another example was a journal creating an online post-graduate clinical learning module based on a research paper by Dr Hughes and colleagues.

A third example was HOT NORTH supporting Dr Hughes to host a First Nations led kidney health clinical research team from Manitoba Canada. This visiting delegation wanted to observe and learn from a First Nation led renal health model of care that Dr Hughes has led at Royal Darwin Hospital.



Michelle Dougan

Opening up career pathways in Allied Health

Working as an optometric assistant for an Aboriginal Community Controlled Health Organisation had given Michelle Dougan important insights about how to support health and wellbeing in her community. She wanted to broaden her skills and investigate new ways of providing care.

A HOT NORTH Indigenous Development and Training Award enabled Michelle to pursue a Certificate in Allied Health Assistance with electives in podiatry, physiotherapy, and speech pathology. This gave her the basis to expand her role and provide more holistic support for community members.

'I support people on their journey from one type of specialist to another... I help them ask questions, provide some basic information about the service, and help patients understand what's in it for them. For example diabetes patients need to understand why they need to speak to podiatrists, nutritionists, and optometrists.'

Gathering knowledge about a variety of disciplines has equipped her to translate complex health regimens for patients and create a culturally safe situation.

Training in speech pathology has been especially useful.

'It has really shined a light on communication, and rolls over into everyday practice.'

Michelle notes one client, for example, whose speech impairments made it impossible for him to ring up and ask why his disability payments had abruptly stopped.

'Talking over the phone is something you don't think a lot about until you have trouble doing it.'

Her new role includes helping patients communicate, which in this case meant being his 'translator' so he could get his income reinstated. Without speech pathology training, Michelle says she wouldn't have been able to help the way she did.







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