



CRE-IQI Year 4 Review Progress Report 2018

Strengthening the health system
through integrated quality improvement
and partnership

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Note on terminology

In this Review, we use the term 'Indigenous' to refer to all peoples and groups in Australia whose ancestors' pre-date colonisation and who identify as such; 'Aboriginal and/or Torres Strait Islander' is also used where appropriate.

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The following Foundation Partners contributed to the successful funding application:

- + Menzies School of Health Research
- + The George Institute for Global Health
- + James Cook University
- + Hunter Medical Research Institute
- + Northern Territory Department of Health
- + The Lowitja Institute
- + Aboriginal Medical Services Alliance Northern Territory
- + South Australia Health and Medical Research Council
- + Apunipima Cape York Health Council
- + Southern Queensland Centre of Excellence in Aboriginal and Torres Strait Islander Primary Health Care (Inala Indigenous Health Service)
- + National Aboriginal Community Controlled Health Organisation

In the spirit of respect, the Centre for Research Excellence in Integrated Quality Improvement acknowledges the people and the Elders of the Aboriginal and Torres Strait Islander Nations who are the Traditional Owners of the land and seas of Australia.

Abbreviations

ABCD	Audit and Best Practice for Chronic Disease
AMSANT	Aboriginal Medical Services Alliance Northern Territory
CQI	continuous quality improvement
CRE-IQI	Centre for Research Excellence in Integrated Quality Improvement
HMRI	Hunter Medical Research Institute
JCU	James Cook University
Menzies	Menzies School of Health Research
NH&MRC	National Health and Medical Research Council
NRP	National Research Partnership
NT	Northern Territory
PHC	primary health care
QAIHC	Queensland Aboriginal and Islander Health Council
UCRH	University Centre for Rural Health
UTS	University of Technology Sydney

CRE-IQI Highlights

Our reach

- + More than 364 people from 85 different organisations have formally partnered in projects and engaged in CRE-IQI activities.
- + Research is disseminated through open web repositories – e.g. a recent policy submission had more than 330 downloads and 15,000 impressions on Twitter over a four-month period.
- + A Flagship dissemination project actively engaged more than 700 diverse PHC stakeholders.

Research outputs

- + 57 peer-reviewed publications (37 different lead authors from 17 organisations).
- + 65 conference and poster presentations at regional, national and international forums.
- + 20 technical reports, evaluations, plain language summaries, key messages or policy briefs.

Resources for policy makers

- + 4 CRE-IQI submissions to parliamentary inquiries.
- + A set of prioritised evidence–practice gaps, and strategies to address these, across several areas of primary health care.
- + Documented evidence to support both the value of implementing CQI in the primary care context, and the key drivers for improving delivery of evidence-based care.

Evidence and influence

- + Evidence has informed the consultation draft of the National CQI Framework for Aboriginal and Torres Strait Islander PHC.
- + Research findings have gone on to inform the successful development of 9 new projects, 7 research fellowships and 2 PhD scholarships funded through competitive processes.
- + The tobacco audit tool has been listed as a resource in the newly released 3rd edition of the Preventive Health Guidelines for Aboriginal and Torres Strait Islander people.
- + Impact of CQI and policy support on health outcomes informed discussions at the State and Federal level about ongoing support for CQI.
- + New CQI partnerships are being forged between researchers and industry partners.

Capacity strengthening

- + 24 Research capacity strengthening teleconferences with 134 individuals attending at least one.
- + 12 Masterclasses delivered with 131 individuals attending at least one.
- + 30% (17/57) of peer-reviewed publications led by a student or project officer.
- + 8 PhD students affiliated with CRE-IQI (3 CRE-IQI PhD scholarships).
- + Research projects sharing learning through community and health service-based workshops.
- + 4 successful Early Career Fellowships.

Leveraged investment

- + Leveraged an additional \$8 million in new project grants.
- + Received substantial in-kind support from our partners, largely through time committed to participating in CRE-IQI activities and projects.

New research ideas emerging

- + Community-based participatory research projects placing community as the drivers and leaders of health systems change.
- + New collaborations aim to translate and scale-out CQI to more sectors.
- + Use of facilitation techniques to support CQI integration and embeddedness in health services.

Commitment to two-way learning, power sharing and facilitating relationships that support Aboriginal and Torres Strait islander leadership

- + Commitment to ethical practice enshrined in an ‘All teach, all learn’ philosophy, operationalised through protocols that guide ethical and research project development.
- + Commitment to co-leadership through Indigenous researcher co-leads on projects.

Our Vision

The Centre for Research Excellence in Integrated Quality Improvement is committed to improving Aboriginal and Torres Strait Islander health outcomes by accelerating and strengthening large-scale primary health care quality improvement efforts.

To achieve this vision, the CRE-IQI has been established as an innovation platform – a multidisciplinary network of researchers, service providers and policy makers who come together to problem solve and identify collective solutions; create spaces for long-term learning and change; and provide opportunities for capacity strengthening.

The CRE-IQI generates, shares and encourages the use of reliable evidence on how CQI can most effectively contribute to improving health outcomes for Aboriginal and Torres Strait Islander people.

The following Principles of Practice, developed through a collaborative process involving all our partner organisations, underpin the CRE-IQI:

- + Respect the past and present experiences of Aboriginal and Torres Strait Islander people.
- + Work in partnership.
- + Ensure Aboriginal and Torres Strait Islander people lead and direct our research.
- + Conduct our research ethically.
- + Get the research questions right.
- + Design research that will be feasible, produce outcomes and strengthen capacity.
- + Identify and provide the necessary resources and training.
- + Establish systems and practices to support the application of evidence to improve Indigenous primary health care and health outcomes.

The CRE-IQI acknowledges the work of DISCOVER-TT in the drafting of these principles.

Purpose of this Review

The CRE-IQI Year 4 Review Progress Report 2018 summarises the first four years of operation of the Centre for Research Excellence in Integrated Quality Improvement, which is funded for five years (2014–2019) by the National Health and Medical Research Council. It is being undertaken as part of the ongoing developmental evaluation of the CRE-IQI – both its program of work and its success as an Innovation Platform – and to guide and inform the CRE-IQI’s work into the future.

With input from members of the CRE-IQI Research Advisory Committee, Steering Committee and Management Committee, the Review examines:

- + Progress of the CRE-IQI to date, in terms of outputs and achievements, and in meeting our aims.
- + Significance of the key messages emerging from the CRE-IQI research, and how these relate to our priorities for PHC service and system development.
- + Key findings emerging from the evaluation of the CRE-IQI.
- + Priorities for the final 15 months of the current CRE-IQI collaboration.
- + Priorities for further collaborative research on quality improvement in Indigenous PHC.

This Year 4 Review follows up on insights gained from the Year 2 Review and earlier feedback from the Research Advisory Committee. This review is intentionally high level and focused on key messages emerging from the CRE-IQI. Further detail about our outputs can be found in the Appendices.

Questions for feedback

We welcome your feedback on this Review, which can either be provided in writing or be given in a telephone interview. These interviews, conducted by Jodie Bailie, will be held between Wednesday 26 September and Wednesday 10 October 2018.

Feedback from the Review process will contribute to a continuing cycle of development and improvement with a view to maximising the impact of CRE-IQI research, encouraging collaboration and supporting capacity strengthening. Questions for feedback are embedded in the relevant areas of the Review. We are particularly interested in feedback on the significance, appropriate framing and relevance of:

- + The key messages from our research.
- + Our emerging areas of research.
- + CRE-IQI innovations in CQI in relation to health service and system developments in Australia and internationally.
- + How to strengthen Indigenous leadership and participation further.

About the CRE-IQI

Aboriginal and Torres Strait Islander people experience a disproportionate burden of ill health, shorter life expectancy and poorer access to primary health care than other Australians. These inequities are a pervasive legacy of colonisation, land dispossession, displacement, disempowerment, social and economic exclusion, and ongoing racial discrimination.

Continuous, system-wide quality improvement – a systematic way of using data to guide changes to improve how PHC is organised, structured or designed – can significantly improve the quality of PHC service delivery. Recognising the efficacy of scaling-up CQI initiatives in Aboriginal and Torres Strait Islander PHC, the National Health and Medical Research Council (NH&MRC) provided funding, from 2014 to 2019, to develop a Centre of Research Excellence in Integrated Quality Improvement in Indigenous Primary Health Care. The CRE-IQI has been working to improve Indigenous health outcomes at all levels of the health system by accelerating, supporting and strengthening system-wide quality improvement efforts in primary health care.

Led by the University Centre for Rural Health (UCRH), the CRE-IQI has been established as an innovation platform to promote a national, open collaboration between researchers, policy and service delivery partners with a long-standing

commitment to improving Aboriginal and Torres Strait Islander health. The work of the CRE-IQI builds on more than two decades of participatory CQI research and development involving Indigenous communities, health services and researchers across Australia.

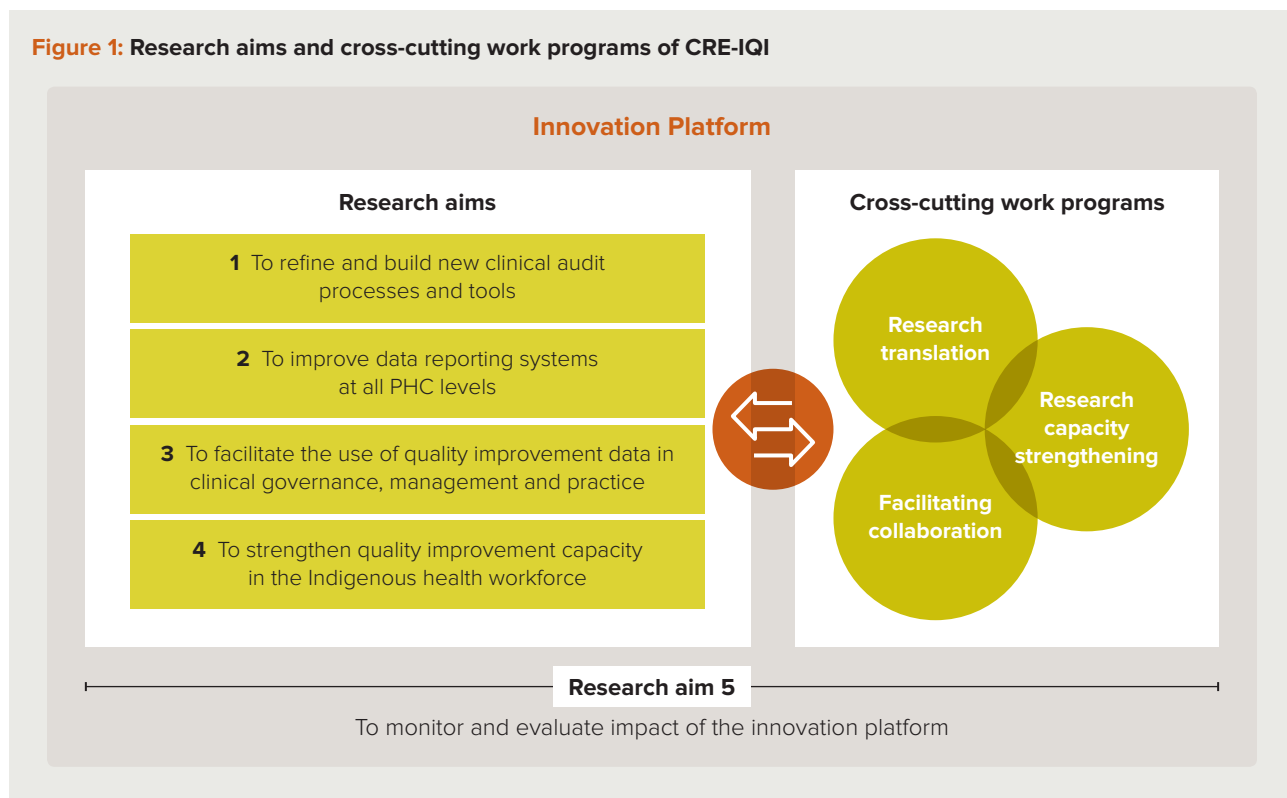
The research aims of the CRE-IQI are (Figure 1):

- + To refine and build new clinical audit processes and tools.
- + To improve data reporting systems at all PHC levels.
- + To facilitate the use of quality improvement data in clinical governance, management and practice.
- + To strengthen quality improvement capacity in the Indigenous health workforce.
- + To monitor and evaluate impact of the innovation platform.

There are three cross-cutting programs linked to these aims:

- + Research translation – Promoting the effective translation of research outcomes into health policy and/or practice.
- + Research capacity strengthening – Building workforce capacity in integrated quality improvement research.
- + Facilitating collaboration – Bringing together researchers, policy makers, and practitioners to problem solve and identify solutions collectively.

Figure 1: Research aims and cross-cutting work programs of CRE-IQI



CRE-IQI as an innovation platform

Strong health systems are required if we are to improve health outcomes for Aboriginal and Torres Strait Islander people. Efforts to strengthen health systems need the engagement of diverse, multidisciplinary stakeholder networks working together on complex or ‘wicked problems’, such as prevention and control of chronic diseases, the solutions to which go beyond the role and capability of one organisation (Ferlie et al. 2013).

Innovation platforms are particularly useful in addressing such complex, system-wide issues requiring coordinated action and collective problem solving, and acting as a vehicle by which to stimulate and support such multi-stakeholder collaboration.

Thus, the CRE-IQI has been conceptualised and operationalised as an innovation platform through which to develop a network of individuals, each representing and reflecting different organisations, backgrounds, expertise and interests.

Innovation platforms have been most extensively applied in the international agricultural development sector and are only recently being applied to health. Bailie et al. (2018), in a recent publication, describe the elements of an innovation platform (Boogaard et al. 2013; Homann-Kee Tui et al. 2013; Schut et al. 2017) and the aspirations of, and the sorts of activities undertaken by, the CRE-IQI. We have provided a summarised version in Table 1.

Table 1: Elements of an innovation platform as they apply to aspirations and activities of the CRE-IQI

Elements of an innovation platform	CRE-IQI innovation platform aspirations and examples of activities
Linking people from a variety of backgrounds, expertise and interests, and from different parts of the health system (value chain)	The CRE-IQI brings together a range of organisations and people working in diverse roles and at different levels of the health system, including researchers from universities (e.g. University of Sydney) and research organisations (e.g. Menzies School of Health Research); policy makers from State and Territory health departments (e.g. NT Department of Health); project managers and clinical leads from State/Territory level support organisations (e.g. AMSANT); and practitioners from Indigenous PHC services.
Identifying shared goals and interests, common problems and solutions	A cornerstone of the CRE-IQI is the long-standing commitment from individuals and organisations to improving Indigenous PHC. The vision, research aims, priority projects for resource allocation, and cross-cutting programs are collaboratively developed. Potential projects are identified through the CRE-IQI network, with the Management Committee determining priority projects and the allocation of CRE-IQI resources.
Leveraging research and/or technological expertise	Drawing from research and practice expertise, as well as the lived experience of members and their communities, the CRE-IQI leverages this knowledge to garner new resources (e.g. new grant applications), implement collective and coordinated action (e.g. increasing CQI capacity strengthening across multiple health services), and advocate for policy change (e.g. recommendations for guidelines and senate inquiries).
Creating spaces for long-term learning and change and providing opportunities for capacity strengthening	Members are supported via learning opportunities, networking and financially so as to develop health research workforce capacity. Regular in-person and teleconference meetings, newsletters and learning webinars provide CRE-IQI members with opportunities to learn from and build connections within and outside of the network, to share problems and experiences, and to develop and exchange ideas.
Using ‘scaling-out’ knowledge to broaden impact	A key focus of work has been broadening the application (or ‘scaling-out’) of CQI to other non-clinical areas of care through implementing, testing, and improving its application. Examples include the family wellbeing context, remote managers training, the health promotion workforce and the social care sector.
Establishing effective governance components to drive and coordinate the innovation platform	A project coordinating centre supports and drives the key activities described above, and a management committee provides high-level strategic direction and governance oversight. Project leads are identified to progress work and create conditions for collective sharing, empowerment and support of project members.

Our experience so far suggests that the CRE-IQI is functioning well as an innovation platform that facilitates a collaborative approach to the development and translation of research projects. Priorities for research have emerged fluidly because PHC stakeholders articulate the knowledge gaps they want to address, and research groups supported by health sector stakeholders form around these topics. By fostering knowledge exchange and collaboration, the CRE-IQI is bringing together stakeholders who offer diverse perspectives on identifying problems (e.g. bottlenecks in the PHC system), and are able to propose innovative solutions and work collaboratively on implementing and evaluating these solutions.

The diverse stakeholder make-up of the network facilitates the ‘scaling-out’ of the experience and expertise held by the CRE-IQI network to new sectors and systems. Although ‘scaling-out’, which refers to the application of evidence to new populations and/or new delivery systems (Aarons et al. 2017), is a relatively new concept in implementation science, the CRE-IQI network has already established linkages and programs of work to implement, test, improve and sustain CQI practices in novel circumstances that extend the boundaries of the PHC sector.

Enacting the key principles of Indigenous leadership and participation

Key messages:

- + The CRE-IQI recognises the capabilities and expertise brought by Aboriginal and Torres Strait Islander people to the research process.
- + Across the CRE-IQI’s research projects, Indigenous and non-Indigenous researchers have been/are working to establish co-leadership arrangements in research with Aboriginal and Torres Strait Islander people.
- + 70 per cent (39/57) of all peer-reviewed publications include an Indigenous author. We are striving to improve this metric.
- + The CRE-IQI grew out of a long-standing collaboration and identified priorities in Indigenous health research.

Indigenous leadership is viewed as one of the key principles that underpins our research practice (see Principles of Practice, p.2).



By fostering knowledge exchange and collaboration, the CRE-IQI is bringing together stakeholders who offer diverse perspectives on identifying problems ... and are able to propose innovative solutions and work collaboratively on implementing and evaluating these solutions.



Similarly, the CRE-IQI supports research that is led and driven by Aboriginal and Torres Strait Islander researchers, practitioners, policy makers and/or communities in partnership with community organisations, or through collaborative approaches involving Indigenous people or communities at each stage of the research process. Feedback from the recent network analysis showed there was high agreement that the CRE-IQI actively supports Indigenous researchers and communities.

The following are examples of how we enact this principle of Indigenous leadership:

- + Our research is driven by working with Aboriginal and Torres Strait Islander health services and support organisations to identify areas of research. As an example, the ESP project (see Appendix 1) has presented aggregated CQI data to more than 700 stakeholders in Indigenous health to identify and address priority evidence–practice gaps, barriers and strategies for improving care. New knowledge, further research and policy submissions have been developed based on this feedback from stakeholders.
- + When advertising vacant positions and scholarships we explicitly encourage Aboriginal and Torres Strait Islander people to apply.
- + We encourage Aboriginal and Torres Strait Islander people's engagement in our bi-annual meetings by providing funding support to attend, drawing on networks to encourage attendance.
- + We support projects that aim to increase Indigenous leadership and control of research more generally; for example, in a recent call for Flagship Projects our explicit criteria included being able to demonstrate Indigenous leadership and/or participation.
- + Many of our research projects are co-designed in partnership with Aboriginal and Torres Strait Islander health services; for example, a multi-partner Learning Community to co-design and advance the LEAP project (see project description, Appendix 1), which aims to improve health through strengthening quality improvement in Indigenous PHC across northern Australia.
- + Where possible we enact formal Indigenous co-leadership arrangements; for example, two newly funded NH&MRC projects have developed formal co-leadership arrangements, and the CRE-IQI Grants Sub-Committee and Research capacity strengthening programs are co-led by Indigenous and non-Indigenous researchers.

- + The Chief Investigator team of the CRE-IQI now has an additional Aboriginal researcher, Associate Professor Roxanne Bainbridge.
- + Where possible, we encourage Aboriginal and Torres Strait Islander people to deliver masterclasses (n= 3) and Research capacity strengthening teleconferences (n=3).
- + We promote opportunities for Indigenous researchers to represent the CRE-IQI at key health and research forums; for example, Close the Gap Refresh Roundtable Discussion.
- + All bi-annual meetings commence with a Welcome to Country and all other meetings have an Acknowledgement of Country.
- + We strive to include Indigenous authors on all publications, and promote their engagement in lead author roles; 70 per cent of our peer-reviewed publications to date include an Indigenous co-author.

This is a vital area of ongoing work, with substantial improvement still required. Suggestions as to how this might be achieved were received from participants in the midway network analysis, and included actively encouraging Indigenous co-leadership, and greater Indigenous representation at CRE-IQI bi-annual meetings, masterclasses and Research capacity strengthening teleconferences.

Question 1: Enacting the key principle of Indigenous leadership and participation

We welcome practical advice on specific steps or activities that we can take to strengthen this aspect of our work.

Our Research Projects

The CRE-IQI is working to identify the most promising innovations and allocating resources to support the development and implementation of projects to promote these innovations.

To determine which projects it supports, the CRE-IQI uses the following criteria:

- + Align strongly with CRE-IQI aims and objectives.
- + Align with the priorities of service and policy organisations in the CRE-IQI network.
- + Address practical, researchable questions.
- + Support wide-scale improvement.
- + Expand population coverage of quality improvement in PHC services for Indigenous people.
- + Enhance equity through supporting less developed services or enhancing quality of care for populations with access to relatively lower quality of care and / or higher needs.
- + Involve multiple partner organisations.
- + Have identified Project Leader(s) to drive and manage the project.

The CRE-IQI has three categories of projects:

- 1 Flagship projects** – vital to assessing CRE-IQI success, as they are strongly aligned to the CRE-IQI objectives.
- 2 Aligned priority projects** – align well with CRE-IQI objectives and are strongly supported by the CRE-IQI.
- 3 Emerging priority projects** – new and emerging ideas with innovative potential but less central to CRE-IQI objectives.

All of the flagship, aligned and emerging priority projects currently underway are designed to address the CRE-IQI's multiple aims and address one of our three cross-cutting work programs – Research capacity strengthening, Facilitating collaboration and Research translation. Appendix 1 contains a brief description of each of these projects, and Appendix 2 shows how each of them addresses our research aims and programs.

The CRE-IQI also provides seed funding grants to assist with the development of research proposals; these are also listed below.

Flagship projects

Engaging stakeholders in identifying priority evidence–practice gaps and strategies for improvement in primary health care (ESP project)

Project status	Completed, research translation activities occurring
Dates	2013 – 2016
Project lead	Ross Bailie (UCRH)
Aim	To engage stakeholders in using clinical audit data to identify priority evidence–practice gaps across key areas of primary health care, to identify barriers preventing these gaps from being addressed, and to develop strategies to mitigate practice gaps in each area of care.

Ongoing analysis and reporting of data from the ABCD National Research Partnership

Project status	Current
Dates	2014 – current
Project lead	Ross Bailie (UCRH), Veronica Matthews (UCRH)
Aim	To undertake further analysis of the CQI data provided by health services participating in the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership, which supported and guided research on improving the quality of care for Aboriginal and Torres Strait Islander primary health care.

Quality improvement in Aboriginal primary health care: Lessons from the best to better the rest

Project status	Completed, research translation activities occurring
Dates	2014 – 2016
Project lead	Sarah Larkins (JCU)
Aim	To investigate contextual factors that contribute to the success of CQI strategies via a multi-site case study project of high-improving Aboriginal and Torres Strait Islander PHC centres.

CQI approaches to sustainable implementation of social and emotional wellbeing programs and services

Project status	Current
Dates	2017 – current
Project lead	Komla Tsey (JCU)
Aim	To support implementation and evaluation of a range of existing social and emotional wellbeing programs and services using a CQI lens, as well as strengthening the evidence base for these programs and services.

Strategies for improving provision of maternal health care for Aboriginal and Torres Strait Islander women

Project status	Current
Dates	2016 – current
Project lead	Melanie Gibson-Helm (Monash University)
Aim	To bring together stakeholders to discuss the implementation of maternal health strategies identified through the ESP project (see ESP project description); and to develop a composite measure and minimum package of pregnancy care through ongoing analysis of CQI maternal health data.

Monitoring and evaluation of the CRE-IQI as an innovation platform

Project status	Current
Dates	2015 – 2019
Project lead	Frances Cunningham (Menzies), Andrew Searles (HMRI), Jodie Bailie (UCRH)
Aim	To generate new knowledge about innovation platforms as a mechanism for large-scale change in PHC by determining what works for whom and in what circumstances in relation to the objectives of the innovation platform. This is being achieved by employing three evaluation approaches: a developmental evaluation as the innovation platform evolves; a network evaluation; and an economic and impact assessment.

Aligned priority projects

Quality improvement in Indigenous primary health care – The Leveraging Effective Ambulatory Practices (LEAP project)

Project status	Current
Dates	2017 – 2020
Project lead	Sarah Larkins (JCU), Veronica Matthews (UCRH)
Aim	To improve the quality of care provided for Aboriginal and Torres Strait Islander Australians, particularly in the areas of maternal and child health and diabetes care, through addressing priority evidence-practice gaps.

WOMen’s action for Mums and Bubs (WOMB): A pragmatic trial of participatory women’s groups to improve Indigenous maternal and child health

Project status	Current
Dates	2017 – 2022
Project lead	Sarah Larkins (JCU), Catrina Felton-Busch (JCU)
Aim	To test the effectiveness of a participatory women’s group intervention to improve the quality of maternal and child health care and outcomes.

Opening doors: Evaluation of the Maari Ma Health Aboriginal Corporation’s Chronic Disease Strategy

Project status	Completed
Dates	2016
Project lead	Ross Bailie (Menzies)
Aim	To evaluate the development and implementation of Maari Ma Health Aboriginal Corporation’s Chronic Disease Strategy over the past 10 years, and to provide guidance on further work.

Implementation of health promotion quality improvement tools and processes in the Northern Territory

Project status	Current
Dates	Ongoing
Project lead	Nikki Percival (UTS)
Aim	To develop greater understanding of the use and potential of health information technology as a method for improving the quality of health promotion practice.

Development of indicators and quality improvement tools for tobacco control programs in Indigenous communities

Project status	Completed
Dates	October 2015 – May 2016
Project lead	David Thomas (Menzies)
Aim	To develop quality indicators and audit tools for a comprehensive tobacco control program for use in a range of health care services and related organisations.

Evaluating the CQI approach for program impact and diversification of the Remote Management Program: A feasibility study

Project status	Current
Dates	October 2017 – June 2019
Project lead	Leigh-Ann Onnis (JCU)
Aim	To evaluate the impact of a CQI approach on the Remote Management Program. This includes the feasibility of up-scaling the program; the program's relevance for Indigenous managers; and investigating how a customised management program could better meet the needs of all remote health managers.

Aremelle Arratyenyeye-ileme – Doing it right: Research knowledge generation and translation in Central Australia

Project status	Current
Dates	2017 – 2018
Project lead	Bronwyn Silver (Central Australian Aboriginal Congress)
Aim	To improve knowledge exchange, generation and translation so that Aboriginal community members, Aboriginal community controlled health organisations and board members have more control over health research, its outcomes and benefits in central Australia.

Emerging priority projects

B.strong: Queensland Health Aboriginal and Torres Strait Islander Brief Intervention Training Program

Project status	Current
Dates	2017 – 2019
Project lead	Frances Cunningham (Menzies)
Aim	To build the capacity of Queensland's Aboriginal and Torres Strait Islander health workers in delivering brief interventions to their clients in the key areas of smoking, nutrition and physical activity.

Assessing and guiding system improvement for delivery of preventive health care for Aboriginal and Torres Strait Islander Australians: Validating a data collection and measurement tool

Project status	Current
Dates	January – December 2018
Project lead	Nikki Percival (UTS)
Aim	To refine the ABCD Systems Assessment Tool for supporting Aboriginal and Torres Strait Islander PHC services to improve links with their community, and with other health and social services in the community, for preventive care.

VOICE: Validating Outcomes by Incorporating Customer Evaluation

Project status On-hold

Project lead In transition

Aim To develop and introduce customer evaluation of primary health care (PHC) episodes of care as a quality indicator in its own right, but also as a means for facilitated discussion around reorientation of PHC services to better meet customer needs.

Seed funding grants

The CRE-IQI offered seed funding grants of \$7000 to assist with the development of research proposals that are trialling and testing new approaches to the application of CQI. Grant applications were reviewed by the Management Committee. Table 2 summarises the successful projects, a number of which have gone on to be funded by the NH&MRC

Table 2: CRE-IQI seed funding allocated

Project title	Lead researcher / institution	Update on status
Leveraging Effective Ambulatory Practices (LEAP project)	Sarah Larkins (JCU)	Developed into a successful NH&MRC grant
Validating Outcomes by Incorporating Customer Evaluation (VOICE project)	Paul Burgess (NT Health)	Submission to NH&MRC unsuccessful, now looking at revising to submit again
Social and emotional wellbeing project	Janya MacCalman (CQU)	Led to the collaborative development of a program of work 'scaling-out' CQI to CQI + social and emotional wellbeing
Sustainable Family Wellbeing implementation using CQI approaches – The case of Act for Kids	Komla Tsey (JCU)	Led to the collaborative development of a program of work 'scaling-out' CQI to include social and emotional wellbeing
Clinical–community links to improve health promotion and social and emotional wellbeing in Indigenous communities	Nikki Percival (UTS)	Supporting the development of a collaborative research program for submission to NH&MRC to address identified gaps in care
Evaluating the CQI approach for program impact and diversification of the Remote Management Program: A feasibility study	Leigh-ann Onnis (JCU)	Feasibility study of the application of CQI principles, and use of the systems assessment tool in a Remote Management Program
CQI in maternal care	Melanie Gibson-Helm (Monash University)	Developing a minimum package of pregnancy care
CQI and social and emotional wellbeing	Komla Tsey (JCU)	Further the collaborative development of a program of work 'scaling-out' CQI to include social and emotional wellbeing

Key Messages from our Research

A review of CRE-IQI peer-reviewed publications and reports highlights a number of key messages emerging from our research.

These messages are consistent across a range of CRE-IQI projects and include:

- + CQI has been successfully applied in Australian Aboriginal and Torres Strait Islander and PHC settings as well as in non-clinical areas of work with a direct bearing on the social determinants of health.
- + For CQI initiatives to have maximum effect in improving the quality of health service delivery to Aboriginal and Torres Strait Islander people it is important to support local-level leadership and decision making in this area.
- + Aboriginal and Torres Strait Islander leadership and participation in CQI research is key to aligning research and implementation with the priorities of Indigenous PHC services and communities.
- + Access to accurate and timely data across the full scope of best practice for PHC is required for both community and data-driven action.
- + There are critical gaps in the collecting and recording of client data in clinical information systems, with an identified need for more training in system use.
- + Multidisciplinary networks – such as ‘innovation platforms’ – are effective in collective problem solving, building capacity and learning, and fostering system-wide learning and change.
- + There is a wide variation in the delivery of care between health services and jurisdictions, with a significant proportion of this variation explained by health centre factors rather than patient characteristics.
- + Sustained use of CQI is associated with improved adherence to best practice care, particularly when backed by higher level policy and regional-level support.
- + The design of the delivery system – clinic infrastructure, staffing profile and the allocation of roles and responsibilities – is vital to the provision of evidence-based care.
- + The availability and use of clinical information systems, committed leadership support for CQI processes, and strong Indigenous participation in the health workforce drive the delivery of high-quality care.
- + A lack of follow-up of abnormal results across a number of areas of care has been identified as a high priority to address.

Question 2: Key messages

We welcome comments on the significance, appropriate framing and relevance of the key messages emerging from the CRE-IQI's work.



Aboriginal and Torres Strait Islander leadership and participation in CQI research is key to aligning research and implementation with the priorities of Indigenous PHC services and communities.



Emerging Areas of Research

In 2018, two published scoping reviews of CQI literature in Aboriginal and Torres Strait Islander primary health care (Gardner et al. 2018; Sibthorpe et al. 2018) recognised that 42 of the 60 included articles came from the ABCD program of work, highlighting the leadership of the CRE-IQI in this area.

The reviews also identified research gaps, in particular that there were no studies addressing community engagement in CQI, no economic studies, and only a few examining links between CQI and patient outcomes (Sibthorpe et al. 2018). Another notable gap was the lack of studies providing detailed information from teams as to the exact strategies they devised under the various stages of the Plan-Do-Study-Act cycles, and how these strategies linked to impacts on service systems, care and outcomes (Gardner et al. 2018).

The study team called for researchers to undertake work in the neglected domains, longer study timelines to capture the impacts of CQI, and standardised documentation of CQI processes across projects. These gaps illustrate a need for future research that explicates how CQI processes are interpreted, enacted and adapted by teams during implementation to provide insights into how to ensure the effectiveness of CQI endeavours.

The CRE recently conducted a call for expressions of interests in research that will inform future grant development to address these gaps and advance CQI knowledge. Current CRE-IQI members and a few new, potential partners submitted expressions of interest that encapsulate both research innovations and plans to build on previous and current work. The topics reflect the following key themes:

- + Advancing the application and sustainability of CQI for health system strengthening.
- + Using CQI processes to enhance community engagement and improve patient experiences.
- + Engaging inter-sectoral action using CQI.

Proposals are being developed for new CQI tools that monitor patient experience, identify non-clinical indicators for social determinants of health, and screen questions for multiple risk factors that are amenable to brief interventions. Exploring the use of facilitation techniques features as an emerging area of interest in embedding and sustaining CQI practices in primary health care. New collaborations between other sectors, particularly social services, are enabling the 'scaling-out' of CQI and bringing opportunities to develop new tools and more effective CQI approaches that address those determinants of health that underlie wellness.

Finally, community engagement will be key in informing how PHC might better address the social determinants of health. A new CRE-IQI project is working with Aboriginal communities to inform and design a future research agenda that directly responds to the needs and interests of those communities.

Question 3: Emerging areas of research

We welcome comments on: a) What do you see as the priorities in terms of further CQI-related research, particularly in relation to health service and systems development in Australia and internationally?; b) Given your knowledge of the CRE-IQI, which priorities are we best able to address and why?

Addressing our Research Aims and Cross-Cutting Work Programs

The following section details how we are addressing the CRE-IQI's research aims and cross-cutting work programs, which were developed as part of the grant application process in consultation with stakeholders, including wide representation from Aboriginal and Torres Strait Islander PHC services. Many of our projects address a number of the research aims and work programs (see Appendix 2).

At the start of the CRE-IQI we ran a number of processes to ensure the research aims and cross-cutting work programs still had currency with stakeholders, as there is often a lag-time between grant development, submission, awarding of the grant and subsequent commencement. Consistent with an innovation platform approach, a changing contextual and policy environment, and developmental evaluation, there has been more emphasis on some aims over others.

Results from our recent network analysis show that, when asked about how the CRE-IQI is meeting its research aims, respondents rated the following three most highly:

- + **To facilitate the use of quality improvement data in clinical governance, management and practice.**
- + **To strengthen quality improvement capacity in the Indigenous health workforce.**
- + **To monitor and evaluate the impact of the innovation platform.**

These were followed by:

- + To refine and build new clinical audit processes and tools.

Although still rated in the 'good category', the lowest ranked research aim was:

- + To improve data reporting systems at all PHC levels.

Our research aims

Research aim: To refine and build new clinical audit processes and tools

Objectives:

- + Refine, and where necessary develop new, clinical audit tools for application in quality improvement processes in primary health care based on evidence, experience and outcomes.
- + Refine quality improvement data systems and processes to make effective, efficient and reliable use of electronic clinical information systems, and indicator data that services are required to report.

Examples of how this aim is being met by the projects include, but are not limited to:

- + Implementation of the health promotion audit tool.
- + Development of a minimum package of maternal care.
- + Application of CQI principles to other areas of care outside of the clinical sphere through the CQI and Remote Management Project and CQI and Family Wellbeing Program.
- + Through the ESP project, stakeholders have identified priority evidence–practice gaps from aggregated CQI data, across key areas of clinical care. We have worked to synthesise these and have identified a set of common priority evidence–practice gaps across all areas of care. The most common gap identified was systems to enable improved follow-up of abnormal clinical and laboratory results.
- + Development of quality improvement tools for tobacco control programs.

Research aim: To improve data reporting systems at all levels of PHC

Objective:

- + Identify priority information needs for improving quality of care, including for local health boards, health centre staff and management, and other key stakeholders with involvement in quality improvement and clinical governance.

Examples of how this aim is being met by the projects include, but are not limited to:

- + Through the ESP project, our research has disseminated aggregated CQI data as a way to engage policy makers and regional level support organisations to use evidence to inform and drive change.

- + The concurrent developmental evaluation (led by PhD student Alison Laycock) of the ESP project has been generating new knowledge on how to engage most effectively with stakeholders to disseminate and use aggregated CQI data. This evaluation has increased our understanding of the factors that influence stakeholder engagement with CQI data and dissemination processes.
- + Our research has consistently identified the lack of capability to use clinical information systems as a barrier to effective electronic extraction and use of data for CQI purposes.

Research aim: To facilitate the use of quality improvement data in clinical governance, management and practice

Objective:

- + Develop approaches for supporting appropriate and effective use of clinical data for clinical governance and clinical management, including development of data management and governance frameworks suited to the complex Aboriginal and Torres Strait Islander primary health care context.

Examples of how this aim is being met by the projects include, but are not limited to:

- + Drawing on findings from other CRE-IQI research that found the strong links between PHC and community to be around a key driver of improved delivery of care, new research has been funded using community-based women’s groups, as an intervention, to improve the quality of Indigenous maternal and child health care (WOMB Project, led by Sarah Larkins).
- + Benefits from the concurrent evaluation of the ESP project included the refinement of dissemination processes and materials; and learning how to engage workers at the policy, management, clinical leadership and practitioner levels in using data to improve the quality of PHC for Aboriginal and Torres Islander people.
- + Development of submissions to parliamentary inquiries drawing on the findings from the CRE-IQI to inform policy development (see Appendix 3).

Research aim: To strengthen quality improvement capacity in the Indigenous health workforce

Objective:

- + Identify and/or develop and evaluate strategies and resources to increase capacity within the Indigenous primary health care workforce and leadership in skills, knowledge and attributes that evidence indicates will support large-scale continuous improvement in Indigenous quality of care.

Examples of how this aim is being met by the projects include, but are not limited to:

- + Identification of strategies to increase capacity of the PHC workforce through the ESP project.
- + Scaling out CQI principles and processes to other areas of care.
- + Collaboratively evaluating with staff from Maari Ma Health Aboriginal Corporation’s Chronic Disease Strategy, using CQI data to inform the evaluation and develop strategies for further implementation and research.
- + Supporting the work of the Northern Territory CQI Coordinators through mechanisms such as funding attendance at bi-annual meetings, and presentations and workshops on various aspects of the CRE-IQI work at CQI Collaboratives.
- + Presentations to QAIHC Data Information and CQI Network teleconferences.

Research aim: To monitor and evaluate impact of the innovation platform

Objective:

- + Generate new knowledge about innovation platforms as a mechanism for large-scale change in primary health care. This work will determine what works for whom and in what circumstances in relation to the objectives of the innovation platform.

Research has included a developmental evaluation, an impact and economic evaluation and a network evaluation of the innovation platform. Furthermore, we have had a concurrent developmental evaluation of the Flagship ESP project.

The evaluation approach has allowed rapid, real-time feedback and adjustments to be made to the formation and functioning of the CRE-IQI.

Our cross-cutting work programs

A recent network analysis of the CRE-IQI asked respondents to give examples of how their involvement in the CRE-IQI had assisted them in their work, or in their health service. The most frequently mentioned was:

- + Improvements in knowledge, skills and abilities (i.e. Research capacity strengthening).

This was followed by:

- + Provision of networking benefits (i.e. Facilitating collaboration).
- + Research translation.

Cross-cutting work program: Research translation

The translation of research knowledge into health policy and practice is integrated into our quality improvement research approach and projects. It is supported through the linkages we facilitate between service providers, policy makers, researchers and communities, through Research capacity strengthening activities and CRE-IQI products. A sustained focus on research translation and knowledge exchange is reflected through:

- + Collaborative development of a Research translation work program by CRE-IQI members, and exchange of ideas and expertise, at bi-annual meetings that are open to existing and new partners.
- + Masterclasses and Research capacity strengthening seminars aimed at developing knowledge and skills in research translation.
- + Implementation-oriented research projects and funding of post-doctoral and PhD researchers whose projects have a knowledge translation focus.
- + 57 peer-reviewed publications, many in open access journals forums (see Appendix 4).
- + 20 technical reports, evaluations, summaries, key messages or policy briefs (see Appendix 4).
- + 65 conference presentations and posters at regional, national and international forums (see Appendix 5).
- + Development of four parliamentary submissions advocating the use of CRE-IQI research findings in national policy initiatives (see Appendix 3).
- + Funding of a position dedicated to research translation.

To date, 364 people have been involved in translation and exchange through attendance at a management committee or bi-annual meeting, Research capacity strengthening seminar, masterclass, conference or presenting a poster, or through the development of a research or technical report or peer-reviewed publication. Of these, 247 were from universities and research institutes; 26 from community-controlled peak bodies; 40 from government departments; 33 from health services; seven from non-government organisations; and five each from policy support organisations and private businesses. At least 42 of those involved in our work identify as Aboriginal and Torres Strait Islander.

Since November 2014, the work of the CRE-IQI has attracted more than \$8 million in funding (see Appendix 6) for projects that have leveraged off the CRE-IQI, such as the LEAP, WOMB and B.strong projects. There has also been substantial in-kind support from partner organisations.

Peer-reviewed publications, conference presentations and posters

Meeting the information needs of diverse stakeholders includes the dissemination of research findings through peer-reviewed articles and other publications (see Appendix 4) as well as through conference presentations (see Appendix 5). As Table 3 (opposite) shows, a key aspect of our translation strategy is to spread leadership and authorship opportunities and to support those less experienced in research, particularly Aboriginal and Torres Strait Islander researchers, to build academic track records.

A recently adopted strategy is to write items for peer-reviewed publication that aim to draw attention to, or encourage the use of, published findings. An example includes a letter to a journal editor drawing on findings from the ESP project (Baillie et al. 2018a).

Table 3: Number of CRE-IQI outputs and author characteristics, November 2014 – August 2018

57 peer-reviewed publications (37 different lead authors from 17 organisations)	17/57 are led by a student or project officer
	39/57 have at least one Aboriginal and/or Torres Strait Islander author
65 conference presentations and posters (23 different lead authors from 11 organisations)	12/65 are led by a student or project officer
	41/65 have at least one Aboriginal and/or Torres Strait Islander author
	23/65 are for international conferences
20 technical and research reports, evaluations, summaries, key messages or policy briefs (11 different lead authors from 8 organisations)	12 /20 are led by a student or project officer
	14/20 have at least one Aboriginal and/or Torres Strait Islander author

Diverse research products and interactive translation processes

To extend audience reach and encourage the use of CRE-IQI findings at different levels of the PHC system, CRE-IQI researchers are generating products that target different audiences including researchers, policy makers, PHC services and Aboriginal and Torres Strait Islander communities. To date, 20 technical and research reports, evaluations, summaries, key messages or policy briefs are available on open access online repositories (see Appendix 4).

Research translation and implementation processes are incorporated into the design of many CRE-IQI projects. Some examples are:

- + The ESP project implemented an interactive dissemination process to engage PHC stakeholders in using aggregated ABCD CQI data to identify priority evidence–practice gaps, barriers and possible strategies for improvement across the scope of PHC. ESP project findings are used to inform improvement at the service level, policy submissions, research collaborations and grant applications, and to generate publications.
- + Strategies for improving provision of maternal health care for Aboriginal and Torres Strait Islander women is bringing together stakeholders to discuss strategies identified in the ESP project and establish the next steps to implement them. It also involves the use of CQI maternal health data to develop a minimum package of pregnancy care.
- + Assessing and guiding system improvement for delivery of preventive health care for Aboriginal and Torres Strait Islander Australians: Validating a data collection and measurement tool has led to funding to review and refine the ABCD Systems Assessment Tool. The aim is to assess and support PHC services to link with community and other community-located services in the delivery of preventive health care.

- + B.strong: Queensland Health Aboriginal and Torres Strait Islander Brief Intervention Training Program is providing training for Aboriginal and Torres Strait Islander Health Workers in the delivery of smoking cessation, nutrition and physical activity brief interventions to their clients.

- + LEAP: Quality improvement in Indigenous primary health care – Leveraging Effective Ambulatory Practices project is creating a Learning Community and working with PHC services to develop a toolkit of customisable tools and processes to address implementation challenges.

Extending our policy influence

Our efforts to influence policy change have seen new strategies adopted. These include the development of four submissions to parliamentary inquiries based on key findings from the CRE-IQI (see Appendix 3). An example is the submission to Close the Gap Refresh, prepared on behalf of the CRE-IQI membership in April 2018. As at 28 August 2018 we have had 324 downloads of this submission on ‘Australian Policy Online’, more than 15,000 impressions on Twitter, and an invitation to attend a roundtable in Sydney to provide advice and feedback on the proposed indicators. Dr Frances Cunningham was also invited to provide evidence as a result of her submission to the Obesity Inquiry.

We have also initiated efforts to engage directly with the Department of Health staff responsible for implementing the National CQI Framework by highlighting the policy-relevant key findings from our published work.

Table 4: Research translation strategies and priorities

Strategy	Likely to include
1 Capacity building	For those identified as ‘champions’ for research projects and research translation in communities, and for collaborative, participatory research teams: upskilling in communicating about research methods/outcomes in lay terms; media/multi-media; print and social media; TV/radio interviews; YouTube presentations
2 Summaries and other products	Product development and capacity building: plain language summaries for Aboriginal and Torres Strait islander communities, posters, manuals or web-based repository of resources
3 Interactive workshops with stakeholders	Engaging various audiences (e.g. PHC teams, communities), skills for workshop planning and facilitation
4 Building relationships with end users	Various target groups – introductions, relationship development, support for networking, co-designing/co-creating projects (e.g. with communities, services, policy makers)
5 Support to develop funding applications	CRE-IQI seed funding, support/expert input in grant writing

Advancing the research translation work program

We have undertaken several consultative processes to gather feedback and ideas on how to support further CRE-IQI research translation activities. This work has drawn on learnings from our masterclasses on research translation and implementation, and includes a series of interactive workshops at CRE-IQI bi-annual meetings. The strategies identified at these forums were collaboratively prioritised at the November 2017 bi-annual meeting to inform a Research translation plan for the remaining funding period of the CRE-IQI, and are outlined in Table 4. A Research Translation Fellow, Alison Laycock, was appointed in August 2018 to coordinate the implementation of this work.

Cross-cutting work program: Research capacity strengthening

The aim of this cross-cutting work program is to strengthen the capacity of researchers, policy makers and members of the Indigenous health workforce to engage with quality improvement research, to understand and apply quality improvement data and evidence, and to provide leadership in quality improvement. We do this by:

- + Establishing a lead group for Research capacity strengthening in 2017.
- + Holding monthly teleconferences, masterclasses and seminars in which ideas are shared and developed collaboratively.
- + Funding PhD and early career researchers, 7 postdoctoral researchers.
- + Having 8 PhD students affiliated with CRE-IQI (3 CRE-IQI PhD Scholarships).
- + Hosting undergraduate, masters, honours and public health trainees.
- + Collaboratively developing and implementing a dedicated Research capacity strengthening program with an ‘All teach, all learn’ motto.

To date we have:

- + Delivered 12 masterclasses to 131 individuals.
- + Conducted 24 Research capacity strengthening seminar series teleconferences involving a total of 134 individuals.
- + Had 30% (17/57) of peer-reviewed publications led by a student or project officer.

Thirteen members of the CRE-IQI were involved in the collaborative development of a Research capacity strengthening model within an 'All teach, all learn' approach to implementation. At the core of this approach is the valuing of Indigenous cultures, knowledge and expertise alongside Western research and knowledge, and recognition that different kinds of capacities are to be developed in different people, processes, organisations, and systems (McPhail-Bell et al. 2018). The Research capacity strengthening work program has a number of key components including monthly Research capacity strengthening teleconference seminars; masterclasses that adjoin bi-annual meetings; visiting scholars; awarding of scholarships; and mentorship through supervision (see Appendix 7).

Research capacity strengthening seminar series

Monthly teleconferences commenced in April 2016 to provide a forum for CRE-IQI participants to discuss research work in progress, gain feedback on conference presentations and concept development and advance the sharing of learning in specific methodologies and topic areas. These monthly teleconferences are well attended with approximately 20 attendees each session. To date we have had 134 individuals from 39 different organisations attend at least one seminar teleconference. For the full listing of topics, presenters and attendance refer to Appendix 7.

Masterclass series

Commencing in 2015, the Masterclass series enables researchers and service providers to access ongoing professional development relevant to CRE-IQI work. Masterclasses have become a standard offering in conjunction with the CRE-IQI bi-annual meetings and are open to individuals in the wider service and research environment on a first come, first served basis. Convening the bi-annual meetings and masterclasses in different locations (e.g. Brisbane, Cairns, Alice Springs) also extends these learning and sharing opportunities to a wider audience. Topics are identified through various mechanisms such as written evaluations after each masterclass and participants identifying topics during bi-annual meetings. A key operating principle is that they draw on the expertise in the room, consistent with the 'All teach, all learn' motto.

The CRE-IQI has so far held 12 masterclasses, with a total of 324 attendances; 131 individuals from 37 different organisations have attended at least one masterclass. There has been reasonably good representation from people in roles other than research with approximately 60 per cent of attendees primarily employed by a research organisation and 40 per cent by community-controlled regional support organisations, Aboriginal community-controlled health services and Government-managed health services, policy organisations or government departments. Masterclasses are consistently evaluated highly by participants who view them as relevant and practical (Table 5). For the full listing of topics, presenters and attendance refer to Appendix 7.

Table 5: Feedback from masterclass participants on satisfaction, mean score on a scale of 1–5
(with 5 as most satisfied)

The aims and objectives were met	4.43
The content is relevant to my job/and or research	4.52
The masterclass was at the right level for me	4.31
I can apply the knowledge and skills I learnt	4.36
The overall course presentation was good	4.44
I will recommend to others	4.46

The most highly rated masterclass to date is Sarah Larkins' and Nalita Turner's 'Two-way listening and learning in CQI research', with an average satisfaction of 4.84. This is closely followed by Yvonne Cadet-Jones' 'Research in an Aboriginal and/or Torres Strait Islander context', with an average satisfaction of 4.78. Comments indicate that these masterclasses were rated highly because the topics were focused on improving communication and how to undertake research in a culturally sensitive way, there were Aboriginal presenters within a space that was considered safe, and participants were able to engage in conversation about culturally appropriate research.

A number of exemplar quotes from these two masterclasses include:

- + 'Created a safe space for me to acknowledge what I don't know and to learn' (Non-Indigenous researcher).
- + 'Direct information/advice from very knowledgeable Aboriginal researcher' (Anonymous).
- + 'Hearing the Aboriginal and Torres Strait Islander voice is very important – so great to keep this in the CRE-IQI bi-annual meetings' (Non-Indigenous researcher).
- + 'Two-way learning in action' (Indigenous researcher).

Post-doctoral researchers, PhD scholars and other students

Making a vital contribution to our research projects are the strong cadres of post-doctoral researchers, and PhD and other students who are directly funded through the CRE-IQI. Our team also includes affiliated early career researchers who have leveraged NH&MRC fellowships or other funding to expand the CQI agenda (see Appendix 8), PhD students undertaking further analysis of datasets (see Appendix 9), and undergraduate and postgraduate students on placements with CRE-IQI investigators working specifically on CRE-IQI projects (see Appendix 10).

Through its Research capacity strengthening cross-cutting work program, the CRE-IQI has awarded a number of Post-Doctoral Fellowships and PhD Scholarships. The following are a list of Post-Doctoral Fellowships awarded through the CRE-IQI and staffing appointments:

- + **Dr Veronica Matthews** is from the Quandamooka community on North Stradbroke Island and was awarded a CRE-IQI Post-Doctoral Fellowship to continue the analysis and reporting of data from the ABCD National Research Partnership. She has subsequently been successful in securing a five-year Wingara Mura Fellowship through the University of Sydney. Recently Veronica commenced a Master of Applied Epidemiology through the Australian National University.

- + **Associate Professor Janya McCalman** was awarded a CRE-IQI Post-Doctoral Fellowship for her project 'Piloting the application of CQI approaches to the implementation of social and emotional wellbeing care'. Subsequent to this fellowship, Janya won an NH&MRC-funded early career fellowship and is now based with Central Queensland University. She continues to collaborate with the CRE-IQI.
- + **The Reverend Leslie Baird** and **Dr Leigh-Ann Onnis** were awarded CRE-IQI funding to support the implementation of the 'CQI in Family Wellbeing CRE-IQI Flagship' project. The funding was also provided to support both researchers to become more competitive in seeking NH&MRC scholarship and early career fellowship funding to support the ongoing implementation of the National Centre for Family Wellbeing. This project provides a case study for an intervention that uses CQI approaches to continuously improve the evidence-base for programs that support improvements in Indigenous social and emotional wellbeing.
- + **Dr Shanthy Ramanathan** was appointed in August 2016 as a CRE-IQI funded post-doctoral researcher based with Associate Professor Andrew Searles at the Hunter Medical Research Institute to implement the impact and economic evaluation of the CRE-IQI.
- + **Dr Karen McPhail-Bell** was appointed for the 12-month position (Sept. 2016 – Sept. 2017) as the CRE-IQI Research Capacity Strengthening Fellow, a role affiliated with the UCRH at the University of Sydney.
- + **Dr Katie Conte** has been recently appointed as a CRE-IQI Research Fellow to assist with the development of collaborative grants to further the work of the CRE-IQI. Katie is based at the Menzies Centre for Health Policy at the University of Sydney.

In addition to these CRE-IQI supported post-doctoral researchers, the following researchers have been successful in securing prestigious NH&MRC funding as Early Career Fellows to further the scaling-out of CQI work:

- + **Dr Nikki Percival**, University of Technology Sydney
- + **Dr Barbara Nattabi**, University of Western Australia
- + **Dr Melanie Gibson-Helm**, Monash University
- + **Associate Professor Janya McCalman**, Central Queensland University.

There are eight PhD students affiliated with the CRE-IQI, three of whom three have obtained a CRE-IQI PhD Top-Up Scholarship, including:

- + **Alison Laycock**, Menzies School of Health Research (Charles Darwin University), who was also successful in securing a NH&MRC Postgraduate Scholarship.
- + **Saji Sebastian**, Menzies School of Health Research (Charles Darwin University), was also successful in securing an Australian Postgraduate Grant.
- + **Jodie Bailie**, School of Public Health (University of Sydney).

For a full listing of our PhD students, information about their topics and how they link to the CRE-IQI refer to Appendix 9.

In addition to working with PhD students on CRE-IQI or affiliated projects, the CRE-IQI has hosted both undergraduate and postgraduate students, supported our staff in further training, and provided affiliated students with the opportunity to gain experience in primary health care research. A full listing of these students, both current and completed, can be found in Appendix 10.

Students and project officers have published as first author on nearly 30 per cent of all peer review manuscripts, 18 per cent of conference presentations and posters, and 60 per cent of technical reports, key messages and policy briefs (see Table 3, p.17).

Cross-cutting work program: Facilitating collaboration

The CRE-IQI connects and brings together researchers, policy makers and practitioners to problem solve and identify solutions collectively. Cornerstone to the success of the CRE-IQI has been the collaborations between researchers and service delivery partners, all of whom have a long-standing commitment to improving Indigenous primary health care. Since the commencement of the CRE-IQI, existing collaborations have been strengthened and new collaborations built through a process of engagement and consultation. Building strong partnerships is integral to ensuring that our many different stakeholders productively work together.

Activities to enhance our partnerships include:

- + Investment in evaluation methods that enable ongoing adjustments to CRE-IQI, including a specific network analysis at the midpoint of operation.
- + Production of a monthly electronic newsletter.
- + Curation of a Twitter and Facebook account.

- + Bi-annual meetings with investigators, policy makers, health practitioners and researchers.
- + Co-production of manuscripts from multiple organisations and roles.
- + Provision of seed funding to seven different lead investigators from five different organisations to progress the development of project ideas.
- + Enacting the principle of Indigenous leadership through the implementation of program co-leads and Indigenous participation by ensuring that all collaborations are culturally safe and respectful.

The CRE-IQI has built on long-standing partnerships and this was evident in the mid-term network analysis, which showed that there was more sharing of knowledge and collaborating between those who had prior knowledge of each other. However, 48 per cent also reported sharing and 37 per cent collaborating with people of whom they had no prior knowledge. This shows both a broadening of relationships and a sharing of knowledge not only with existing partners but also new ones. In addition, 36 per cent of sharing occurred outside immediate collaborative partnerships, indicating good network support.

As part of the mid-term network analysis we asked members to what extent they agreed or disagreed with a number of statements about membership and involvement in the CRE-IQI. The items with the highest level of agreement were:

- + 'The CRE-IQI includes expertise in research on CQI in Indigenous PHC'.
- + 'CRE-IQI participants include expertise in CQI in Indigenous PHC practice'.

There was strong agreement that CQI facilitators and coordinators, community-controlled health services, and government-operated health services participate in the CRE-IQI. The lowest agreement was for the CRE-IQI's involvement with policy makers.

Production of monthly electronic newsletters

In direct response to our members, in August 2017 we commenced a monthly electronic CRE-IQI newsletter as a way for us to share information about new publications, grants, upcoming events or findings from projects. The newsletter goes out electronically to 230 recipients, and the list is growing. As an example of its reach, the February 2018 newsletter went to subscribers in the USA, New Zealand, Canada and the Czech Republic. On average we get an 'open rate' of approximately 30 per cent compared to the industry average of 17 per cent.

A full list of our newsletters can be found on our website –

CRE-IQI CQI Innovation eNews' Online Newsletters

(<http://ucrh.edu.au/wp-content/uploads/2018/09/CQI-Innovation-eNews-issues.pdf>).

Curation of Twitter and Facebook accounts

Our Twitter account – with 231 tweets to date – has 132 'followers' and has been useful in building our partnerships, collaborations and profile by disseminating key communications such as newsletters, promoting our latest research and sharing CQI-related information. Facebook has not been as widely accepted and we are looking at phasing it out.

Collaborating in publications

The strength of our partnerships and collaborations is evidenced by the number of different lead authors and organisations involved in the production of our peer-reviewed publications, conference presentations and posters, technical reports and key message documents. More details on these can be found in Table 3 (p.17).

Bi-annual meetings

Bi-annual meetings have been instrumental in bringing together key researchers, service providers, government policy makers, and representatives from Indigenous community-controlled and peak organisations to contribute to the development of the CRE-IQI's aims, research projects and cross-cutting work programs. To date, 84 individuals from 29 organisations have attended the bi-annual meetings. Of these, 10 were from community-controlled peak organisations (e.g. QAIHC); 10 from government bodies (e.g. NT Health); eight from health services (e.g. Wuchopperen Health Service); two from non-government organisations (e.g. Link-up); one from the private hospital sector; and 53 from university and research organisations. It is important to note that many people identified with the university and research sector hold multiple roles including clinical and/or policy roles. Approximately 20 per cent of attendees at our bi-annual meetings identify as Aboriginal or Torres Strait Islander.

There has been a broadening base of organisations attending our bi-annual meetings. The Year 2 Review reported representation from 18 different organisations, compared with 29 different organisations as at August 2018.

A key focus of the bi-annual meetings has been to involve the CRE-IQI network in the identification of priority projects and the development of new project ideas, with opportunities for in-depth discussions between researchers and service provider representatives. To date we have held seven bi-annual meetings in different locations around Australia, including Brisbane, Cairns, Darwin and Alice Springs. For a full listing of meetings and attendance data see Appendix 7.

At the end of each bi-annual meeting, we ask participants to provide written input on 'what were the strengths of the meeting?' and 'suggestions for the next meeting'. As part of the developmental evaluation this input is then reviewed after each meeting and taken into account for future meetings. Feedback about the strengths of the bi-annual meetings has been overwhelmingly connected to the networking opportunities they provide for meeting with new and existing stakeholders interested in quality improvement, the cross-pollination of ideas from the wide variety of organisations and individuals in attendance, and robustness of the collaboration. For example:

- + 'Diverse presentations, diverse presenters! Lots of passionate people in one room. Opportunities for info exchange and problem solutions' (Aboriginal Health Worker, community-controlled health service).
- + 'Collaborations. Sharing of knowledge and tools. Engaging with like-minded people with similar purpose. Increased networking' (Indigenous researcher).
- + 'Networking opportunities; cross-pollination of ideas; opportunity to catch up with colleagues for project development' (Anonymous).
- + 'Collaborations between research users and researchers; broad cross-section of attendees; opportunity to catch up with previous collaborators / make new collaborations' (Anonymous).
- + 'Open discussion through strong connections and safe space' (Anonymous).

Innovations Emerging from the CRE-IQI

As their name indicates, innovation platforms have innovation as their objective. Innovation is stimulated when people come to learn, share ideas and problem solve together. There are many definitions of innovation, with many having a focus on technologies.

For the purposes of the CRE-IQI, the most appropriate definition of innovation is that provided by Rogers (2003:12): ‘*an idea, practice or object that is perceived as new by an individual or group*’, noting that newness ‘*may be expressed in terms of knowledge, persuasion or a decision to adopt*’. Nix et al. (2018:207) adapted Rodger’s definition by expanding it to include the ‘*non-directed, organic sharing of ideas and practices that, in the end, might or might not be objects of diffusion*’ to allow for learning through the exchange of ideas. Innovations, therefore, may be entirely composed of information.

The following are examples of innovations emerging from the CRE-IQI to date.

Innovating ideas

- + Developing a minimum package of maternal care, using CQI approaches (led by Melanie Gibson-Helm, Monash University).
- + Identifying the vital role of the delivery design system for PHC – that can be enhanced through leadership and sound management – for raising performance in the delivery of evidence-based sexual health care (Nattabi et al. 2018).
- + Using sustained policy commitment and funding to CQI to improve adherence to best practice guidelines, leading to improved delivery of care and health outcomes (Baillie et al. 2017).
- + Co-producing a set of priority evidence–practice gaps in care, commonly identified barriers to, and strategies for improvement.
- + Identifying factors that contribute to the wide variation in care being delivered in PHC services, including the role of organisational factors such as leadership, regional support systems, commitment to CQI, strong Indigenous participation in the health service, and active partnerships with the Aboriginal and Torres Strait Islander community.

Innovating processes

- + Using innovation platform concepts, predominately applied in the agricultural development sector, to problem solve collectively, strengthen capacity and learning, and foster system-wide learning and change in the Australian Aboriginal and Torres Strait Islander PHC context (Baillie et al. 2018).
- + Developing a methodology using CQI processes at scale to identify and address priority evidence–practice gaps in care that occur across multiple health services (Laycock et al. 2016).
- + Developing processes for participatory interpretation of regional and national level data that build evaluation capacity and skills in using data to inform decision making in the health system – ESP project (Laycock et al. 2016).
- + Trialling the application of the recently developed Framework to Assess the Impact of Translational health research (FAIT) in the Indigenous CQI research sphere, leading to appraisal and refinement of the framework (Ramanathan et al. 2017).
- + Applying a multi-prong evaluation, that includes feedback from stakeholders and developmental evaluation techniques, to adapt and adjust consistently the functioning of the CRE-IQI.

Innovating for scaling-out

- + Undertaking a feasibility study to explore the use of CQI and of Systems Assessment Tools in Remote Managers Training packages (led by Leigh-Ann Onnis, JCU).
- + Trialling and testing the application of CQI principles in the non-clinical sphere, including health promotion, family wellbeing and remote management (McCalman et al. 2018).

Question 4 Innovations

Do you have any advice or suggestions on:
a) How we have tailored the definition of ‘innovations’ for the purpose of the CRE-IQI;
b) How we have categorised innovations (innovating ideas, innovating processes and innovating for scaling-out). From your reading of the review are there any other innovations that have emerged from the CRE-IQI and how would these best be communicated?

Investigators and CRE-IQI Management

Our Chief and Associate Investigators are uniquely placed in leadership positions across a diverse range of national academic, policy and service delivery institutions, with strong international linkages in continuous quality improvement research. Other research strengths include health service research and evaluation, health economics, epidemiology, knowledge transfer and implementation research, in addition to practical service delivery, management and policy experience.

Research team

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CIA	Professor Ross Bailie	University Centre for Rural Health, University of Sydney
CIB	Professor David Peiris	The George Institute for Global Health
CIC	Dr Frances Cunningham	Menzies School of Health Research
CID	Professor Sarah Larkins	James Cook University
CIE	Professor Chris Doran	Central Queensland University
CIF	Professor Alan Cass	Menzies School of Health Research
CIG	Ms Lynette Feeney	University Centre for Rural Health, University of Sydney
CIH	Associate Professor Roxanne Bainbridge	Central Queensland University
CII	Dr Paul Burgess	NT Department of Health
CIJ	Professor Komla Tsey	James Cook University
AI		The Lowitja Institute
AI	Ms Kerry Copley	Aboriginal Medical Services Alliance NT
AI	Professor Alex Brown	South Australian Medical Research Institute
AI	Dr Louise Clark	Menzies School of Health Research
AI	Professor Andrew Searles	Hunter Medical Research Institute
AI	Associate Professor Mark Wenitong	Apunipima Cape York Health Council
AI	Professor Deborah Askew	Inala Indigenous Health Service
AI	Associate Professor Janya McCalman	Central Queensland University
AI		Queensland Aboriginal Islander Health Council
AI	Dr Ru Kwedza	University Centre for Rural Health, University of Sydney

The CRE-IQI partnership is not limited to those named as Chief Investigators or Associate Investigators. Additional Investigators named on the NH&MRC grant include: Dr Liz Moore (Public Health Medical Officer, AMSANT), Professor Sabina Knight (Director, Mt Isa Centre for Rural and Remote Health) and Ms Jenny Brands (Research Translation, Menzies School of Health Research).

The CRE-IQI is overseen by a Research Advisory Committee, Steering Committee and Management Committee, and operates within a current Terms of Reference.

In September 2016 the Coordinating Centre of the CRE-IQI moved from Menzies School of Health Research to the University Centre for Rural Health in Lismore, northern New South Wales. This move was prompted by CI Professor Ross Bailie taking up an appointment as Director of UCRH. Coordinating Centre staff currently include Jodie Bailie (Research Fellow Evaluation), Kerryn Harkin (Project Officer) and Professor Ross Bailie.

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Appendix 1

Project Descriptions

Engaging stakeholders in identifying priority evidence–practice gaps and strategies for improvement in primary health care (ESP project)

Aim

To engage stakeholders in using clinical audit data to identify priority evidence–practice gaps across key areas of primary health care, to identify barriers preventing these gaps from being addressed, and to develop strategies to mitigate practice gaps in each area of care.

Overview

Background: The ESP project is closely linked to the Audit and Best Practice for Chronic Disease (ABCD) Data Analysis Project (see ABCD project description).

Project description: The project disseminated continuous quality improvement (CQI) data collected as part of the ABCD Partnership and engaged stakeholders in Aboriginal and Torres Strait Islander health care delivery in interpreting the data. Stakeholders included service providers, managers, policymakers and researchers. Across all key areas of care, iterative phases of reporting and online feedback were used:

- + To identify priority areas for improvement (Phase 1).
- + To identify barriers to addressing the identified priority evidence–practice gaps, and strategies that could be introduced or strengthened to enable improvement (Phase 2).
- + To check and confirm findings (Review).

A concurrent developmental evaluation (led by CRE-IQI PhD student Alison Laycock) has increased our understanding of stakeholders' engagement in the interactive dissemination process and their use of CQI data and ESP project findings.

Outputs to date

Extensive input from 700+ stakeholders across the different areas of care meant the project provided a capacity-building element in the use of aggregated CQI data. Findings from the ESP project have been used:

- + To inform the CQI and Maternal Care Project being led by Dr Melanie Gibson-Helm.
- + To provide evidence for a successful NH&MRC Early Career Fellowship grant awarded to Nikki Percival to study community linkages with health services.

Research outputs include six publications in peer-reviewed journals, presentations and posters at 18 national and international conferences, and six technical reports.

Key messages

The project identified a set of priority gaps in care, barriers to addressing these and strategies for each area of care. Evidence–practice gaps across areas of care included:

- + follow-up of abnormal clinical findings and laboratory results
- + the recording of risk factors and of brief interventions
- + emotional wellbeing assessment and support
- + systems to strengthen links between communities and health services.

Commonly identified barriers to improvement included:

- + workforce recruitment and retention issues
- + the training and development of health staff
- + the development and effective use of clinical information systems
- + systems to support patient-centred care
- + effective use of data to inform decision making
- + management training and support for CQI
- + links between community and health services.

<i>Project team</i>	Ross Bailie (Team Leader) ¹ , Jodie Bailie ¹ , Veronica Matthews ¹ , Alison Laycock ^{1,2}
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<i>Project status</i>	Completed
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<i>Dates</i>	2013 – 2016
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Ongoing analysis and reporting of data from the ABCD National Research Partnership

Aim

To undertake further analysis of the continuous quality improvement (CQI) data provided by health services participating in the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership, which supported and guided research on improving the quality of care for Aboriginal and Torres Strait Islander primary health care.

Overview

Background: The ABCD Data Analysis project extends the work of the ABCD National Research Partnership 2010–2014. The Partnership was established to bring together primary health care centres, stakeholder organisations and research institutions to support and guide research on understanding the determinants of variation in quality of care, as well as supporting the effective translation of research findings into clinical practice and policy.

One hundred and seventy-five primary health care centres across all States and Territories – including Aboriginal community controlled health organisations and government-managed health centres – provided the Partnership with de-identified clinical audit data derived from the use of CQI tools and processes. More than 56,000 de-identified patient records were made available for research across the following areas of care: chronic illness, preventive care, child health, maternal health care, rheumatic heart disease and mental health. The CQI data from the Partnership provide the most comprehensive picture to date of the quality of primary health care received by Aboriginal and Torres Strait Islander people around Australia.

Project description: Building on the success of the Partnership, the ABCD Data Analysis and Reporting Project is continuing collaborative analysis of the CQI data, providing a solid foundation for system-wide improvement of care quality across Australia. It continues to inform priorities through the work of the CRE-IQI.

Outputs to date

- + 65% (37 of 57) of peer-reviewed manuscripts from the CRE-IQI to date have been related to the ongoing ABCD Data Analysis Project (this is an increase from 17 peer-review publications reported in the Year 2 Review), with 23 different lead authors from eight organisations.
- + 15 of the 37 publications were led by project officers, Masters or PhD students and public health trainees – a strategy aimed at developing the next generation of researchers.
- + Researchers from institutions/university departments around Australia have partnered to undertake more than 20 research projects using ABCD data to address the objectives of the Partnership. Effective collaborations across jurisdictions, sectors and organisations have been a feature of these projects. Examples include analyses of:
 - child health data with the Centre for Research Excellence in Improving Health Services for Aboriginal and Torres Strait Islander children
 - maternal health data with Monash University
 - sexual health data with the Western Australian Centre for Rural Health.

There has also been international interest in our CQI work and resulting collaborations with institutions in other countries.

Key messages

- + There is a wide variation in the delivery of care between health services and jurisdictions, with a significant proportion of this variation explained by health centre factors rather than patient characteristics.
- + Longer participation in CQI is associated with improved adherence to best practice care, particularly when backed by higher level support.
- + High-level policy support and regional-level support for CQI can have an important influence on the quality of care provided.
- + The design of the delivery system – clinic infrastructure, staffing profile and the allocation of roles and responsibilities – is important as it is associated with greater provision of evidence-based care.
- + Identified drivers for high-quality care delivery include the availability and use of clinical information systems, committed leadership support for CQI processes, and strong Indigenous participation in the workforce and health service.
- + A lack of follow-up of abnormal results across a number of areas of care needs to be addressed.

Next steps

The project continues to inform the improvement of primary health care quality for Aboriginal and Torres Strait Islander people, and to add to the national and international CQI literature.

<i>Project team</i>	Ross Bailie (Team Leader) ¹ , Veronica Matthews ¹ with collaborators
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<i>Project status</i>	Current
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<i>Dates</i>	2014 – current
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Quality improvement in Aboriginal primary health care: Lessons from the best to better the rest

Aim

To investigate contextual factors that contribute to the success of continuous quality improvement (CQI) strategies via a multi-site case study project of high-improving Aboriginal and Torres Strait Islander primary health care (PHC) centres.

Overview

Background: There is a strong and growing body of evidence that highlights the benefits of CQI systems and processes in improving the performance of individual Aboriginal and Torres Strait Islander PHCs over time. However, some PHCs do better than others and, by analysing a small sample of high-improving centres, this research aimed to identify success commonalities that can help improve CQI performance across all PHCs.

Project description: The Lessons from the Best project used case studies to investigate the ‘secrets of success’ of high-improving Aboriginal and Torres Strait Islander PHC services. Six services in far north Queensland, the Northern Territory and Western Australia’s Kimberley region took part in the research.

Project findings suggest that complex workforce, organisational and resourcing factors alongside the wider community context combine to influence the degree to which service quality improves in response to CQI cycles. There was no statistically significant association between quality improvement status over time and service size, governance models or remoteness, but there was a possible negative association with accreditation status.

Outputs to date

- + Three one-page summary documents – a policy brief, a summary for health services and the results of community feedback – developed and distributed to stakeholders.
- + The presentation of main research findings at the PHC Research Conference, Melbourne, August 2018; the NH&MRC Annual Symposium on Research Translation, Brisbane, November 2017; and the AMSANT CQI Collaborative, Alice Springs, November 2017.
- + Two published journal articles, another under review and one near submission.

Key messages

Even among this group of ‘high-improving’ services the ways in which CQI is conceived, implemented and communicated vary dramatically. Some themes were common at the health service level and at the community and interpersonal levels, but they were not universal. These themes included:

- + committed staff leadership (clinical and managerial)
- + strong partnerships within community and broader networks
- + embeddedness in Aboriginal and Torres Strait Islander culture.

Each level of the system has distinguishing interaction patterns (e.g. shared decision making or staff relationships) that support quality improvement, and high-improving services are responsive enough to modify their activities according to context to optimise quality improvement. For example, in jurisdictions with unsupportive policies it appears that impetus is gained through generating local solutions to overcoming challenges.

Factors influencing CQI at high-improving services operated at three levels:

- + Community and inter-personal level – local engagement with the service and caring staff.
- + Health service level – CQI supports, teamwork and collaboration, a prepared workforce and ‘two-way’ thinking that brought together Indigenous and non-Indigenous perspectives.
- + Broader contextual level – policies, linkages with external organisations, understanding and responding to historical and cultural contexts, and communities driving health improvement.

Next steps

The project team leveraged the findings and experiences from the project in a successful application to the NH&MRC for a partnership grant, ‘Quality improvement in Indigenous primary health care: Leveraging Effective Ambulatory Practices’ (LEAP) (see LEAP project description).

<i>Project team</i>	Sarah Larkins (Team Leader) ¹ , Sandy Thompson ² , Jacinta Elston ¹ , Christine Connors ³ , Komla Tsey ¹ , Ross Bailie ⁴ , Cindy Woods ¹ , Annette Panzera ¹ , Nalita Turner ¹ , Michelle MacLaren-Redman ¹ , Karen Carlisle ¹ , Judy Taylor ¹ , Ru Kwedza ⁵ , Roderick Wright ⁶ , Kerry Copley ⁷ , Tania Patrao ⁸ , Veronica Matthews ⁴ , Jacki Ward ⁹
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<i>Project status</i>	Completed
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<i>Dates</i>	2014 – 2016
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- 7 Aboriginal Medical Services Alliance NT (AMSANT)
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CQI approaches to sustainable implementation of social and emotional wellbeing programs and services

Aim

To support implementation and evaluation of a range of existing social and emotional wellbeing (SEWB) programs and services using a continuous quality improvement (CQI) lens, as well as strengthening the evidence base for these programs and services.

Overview

Background: Two factors motivated the project. First, evidence suggests that sustainable implementation of promising programs and services using CQI approaches is potentially a cost-beneficial way of improving health and wellbeing. However, it is hard to find case studies of sustainable implementation and evaluation of Aboriginal and Torres Strait Islander SEWB programs and services, despite significant interest in and uptake of such programs and services. Second, CQI approaches have been applied widely across Aboriginal and Torres Strait Islander primary health care services with significant outcomes, but less so within broader SEWB service delivery areas. There is an obvious need to improve service quality and outcomes in areas such as child protection, family support, youth work, drug and alcohol interventions, and other social determinants of health.

Project description: The project covers more than a dozen discrete wellbeing promotion-related research and development programs. By focusing on these activities using a participatory action research CQI lens, the project aims to improve understanding about sustainable implementation and evaluation of SEWB programs and services.

To achieve our goal, a number of pragmatic approaches have been implemented:

- + We have taken advantage of the continuing demand for the Family Wellbeing (FWB) program (experiential learning and empowerment to address physical, emotional, mental and spiritual needs) to design case studies of sustainable FWB implementation within particular service contexts.
- + We have responded to demand from newly established mental health services to work with them on the design of long-term evaluation frameworks using CQI approaches.
- + We have used a systematic literature review of the application of CQI in child protection as an opportunity to engage social work colleagues about the potential of CQI to improve outcomes across social services, and to provide support and mentoring towards more systematic longer term and mutually beneficial research partnerships with industry sectors.
- + An experienced Indigenous health leader (Leslie Baird) has provided cultural guidance to support community/organisation engagement and implementation of SEWB initiatives using a CQI lens.
- + We have reviewed the evidence base for FWB and other SEWB interventions so as to develop a set of core measures to facilitate process and impact assessments across settings.

Outputs to date

- + A SEWB research translation and impact assessment case study is currently under review.
- + A systematic literature review of the application of CQI approaches in child protection has been published.
- + The development of core measures and a governance structure for collection, storage and access for FWB and other SEWB data has commenced.
- + Across the discrete projects more than 10 papers are in press or under review, with more being prepared for submission, and there have been several conference presentations.
- + A National Centre for FWB website (<https://family-wellbeing.squarespace.com>) has been created.
- + Queensland Police and Cape York Aboriginal communities are in an emerging partnership to evaluate a child sexual abuse community awareness and prevention program using participatory action research and CQI approaches.
- + Discussions are currently in progress with the private sector for funding and in-kind support, including a whole-of-community investment approach.

Anticipated outputs

- + Sustainable implementation of FWB in a child protection service using participatory action research and CQI approaches (currently in preparation).
- + A national FWB knowledge-sharing forum to be held in Cairns on 27 November 2018.

Next steps

- + The project will synthesise the learnings and insights gained from the discrete projects to improve understanding of sustainable SEWB service and program implementation using CQI approaches, and to inform practice in this area.
- + Individual researchers will continue to seek funding for research activities building on previous research, as well as working collaboratively across projects using CQI to strengthen the evidence base for SEWB programs and services.

<i>Project team</i>	Komla Tsey (Team Leader) ¹ , Leigh-Ann Onnis ¹ , Leslie Baird ¹ , Tahalani Hunter ¹ , Yvonne Cadet-James ¹ , Janya McCalman ^{1,2} , Roxanne Bainbridge ^{1,2} , Cath Brown ¹ , Helen Klieve ³ , Irina Kinchin ² , Mary Whiteside ⁴ , Megan Williams ⁵
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Strategies for improving provision of maternal health care for Aboriginal and Torres Strait Islander women

Aim

To bring together stakeholders to discuss the implementation of maternal health strategies identified through the ESP project (see ESP project description); and to develop a composite measure and minimum package of pregnancy care through ongoing analysis of continuous quality improvement maternal health data.

Overview

Background: This project has its origins in conversations with service/policy organisations during the April 2016 CRE-IQI bi-annual meeting. Two key messages emerged:

- 1 Organisations would have liked face-to-face opportunities to contribute to the ESP project.
- 2 There is a large number of clinical services to be delivered and measured, particularly in pregnancy care, in time- and resource-limited settings.

These messages resulted in a research proposal aimed at assisting health service leadership teams, particularly those in less developed services, to decide where best to focus their limited resources for continuous quality improvement. The proposal anticipates this approach will have real benefits for those women with access to relatively lower quality of care.

Project description: This is a coordinated, collaborative project in two parts. It builds on recently completed or current research by the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership (Partnership) and the CRE-IQI. It does this by adding further translation and consultation components, and by developing a useful tool for maternal health services

- + **Part 1:** This furthers the work of the maternal health component of the ESP project, during which stakeholders prioritised evidence–practice gaps in maternal health care for Aboriginal and Torres Strait Islander women and identified potential strategies to address the gaps. By bringing together stakeholders in face-to-face workshops to discuss these strategies, this part of the project aims to forge linkages between stakeholders across different levels of the health system, facilitating information exchange and assisting stakeholders to take action.
- + **Part 2:** This involves ongoing analysis of the ABCD Partnership maternal health data. We are currently using this dataset to develop a composite measure of pregnancy care based on the combination of clinical services that has the largest positive impact on pre-term birth, low birthweight and small-for-gestational age. This analysis will lead to the development of a minimum package of pregnancy care content that will form a useful tool for health services. We intend for the tool to be applied to care for all women, irrespective of risk or parity, at any primary health care service providing maternal health care.

Anticipated outputs

- + To increase the reach of the ESP project findings related to current, prioritised, evidence–practice gaps and associated barriers and enablers for achieving improvement (**Part 1**).
- + To increase translation of ESP project findings into policy and practice by facilitating discussion of strategies proposed during the ESP project, connections between stakeholders, and the development of plans to implement strategies (**Part 1**).
- + To use ABCD Partnership data to ascertain which combination of components of pregnancy care has the largest positive impact on birth outcomes (**Part 2**).
- + To develop this list of essential items into a composite measure of pregnancy care content, and then into a tool (with accompanying resources) for health services to use for planning and quality improvement (**Part 2**).

Next steps

After further consultation at the May 2017 CRE-IQI meeting we decided to have dedicated workshops for each of the two parts, rather than one workshop covering both. We have begun scoping the national conferences with which the two workshops could be aligned, and agendas for both have been drafted. Key outputs from the workshops are expected to be as follows:

- 1 Each project team will prepare a report from the workshops and send it both to the CRE-IQI and to all attendees inviting them to tell us what actions they have since taken.
- 2 2–3 journal articles: the article related to Part 1 has been published. We anticipate 1–2 journal articles based on Part 2.
- 3 Outcomes of the translation and consultation workshops will be used for reporting against CRE-IQI milestones and to inform future research related to Part 2.

Project team Melanie Gibson-Helm¹ leads the two teams responsible for the separate research components:

Team 1: Jodie Bailie², Veronica Matthews², Alison Laycock^{2,3}, Jacqueline Boyle¹, Ross Bailie²

Team 2: Arul Ernest¹, Jacqueline Boyle¹, Veronica Matthews², Sandra Campbell⁴, Alice Rumbold⁵, Steven Larkin⁶, Ross Bailie²

Project status Current

Dates 2016 – current

CRE research categories

- 1 Facilitate the use of quality improvement data in clinical governance, management and practice;
- 2 Refine and build new clinical audit tools and processes

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Monitoring and evaluation of the CRE-IQI as an innovation platform

Due to the inherent challenges with evaluating complex networks (such as an innovation platform) we have designed a mixed-methods, multi-pronged evaluation. We are employing three evaluation approaches to learning about the establishment, functioning and outcomes of the CRE-IQI as an innovation platform:

- + Network evaluation
- + Economic and impact assessment
- + Developmental evaluation.

The evaluation of the CRE-IQI as an innovation platform has international relevance, and will make a unique contribution, because of the paucity of well-conducted evaluative research on innovation platforms in the peer-reviewed literature.

The evaluation group has Aboriginal and Torres Strait Islander co-leadership and comprises: Ross Bailie, Roxanne Bainbridge, Jodie Bailie, Veronica Matthews, Frances Cunningham, Andrew Searle, Chris Doran, Shanthi Ramanathan, Alison Laycock and Boyd Potts.

Here we briefly describe the evaluation approaches, progress to date and key messages emerging from the evaluations so far.

Network evaluation

Aim

To assess how well the CRE-IQI is working as a collaborative network, over its lifespan, to strengthen integrated continuous quality improvement (CQI) in Aboriginal and Torres Strait Islander primary health care (PHC) systems.

Overview

The evaluation will examine how well the CRE-IQI is functioning both from a network governance perspective and from a social network analysis perspective. The latter will assist in identifying the underlying network of relationships in the collaboration that people rely on to find information and to solve problems. This approach is being undertaken to evaluate network governance and the collaborative aspects of the CRE-IQI via two linked surveys of network members, covering feedback from members and network relationship questions. The first survey was conducted midway through the CRE-IQI implementation and the second will occur in 2019.

Outputs to date

- + Ethics approval granted.
- + Survey 1 conducted in late 2017 to early 2018.
- + A paper from the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership network published in June 2018.
- + A report of findings from Survey 1 disseminated. Qualitative feedback and results of the social network analysis indicate good performance for the CRE-IQI both as an innovation platform and in achieving its aims from the perspective of its members. Network data analysis showed a high incidence of information sharing and collaboration, both within and outside of collaborating partners, and engagement with CRE-IQI bi-annual meetings and other events.
- + A workshop held at the May 2018 bi-annual meeting to discuss the translation of findings.
- + A set of recommendations and an action list for strengthening the CRE-IQI's collaborative network have been developed

Key messages

- + To expand the representation of the CRE-IQI network.
- + To encourage Aboriginal and Torres Strait Islander co-leadership, representation and ways of working.
- + To strengthen connectivity, both within the existing network and the extending network of new members.
- + To convene a national workshop, policy thinktank or a CQI collaborative event (modelled on the Northern Territory CQI Collaboratives) to progress the national agenda on CQI in Indigenous PHC.
- + To increase cross-promotion and communication about the CRE-IQI.
- + To provide better support to health services through targeting CRE-IQI research towards their needs, supporting them in their research interests, and involving their staff in capacity building activities.
- + To build on the strengths of the CRE-IQI collaborative network by setting network development goals and encouraging more promotion.

<i>Project team</i>	Frances Cunningham (Team Leader) ¹ , Boyd Potts ¹
<i>Project status</i>	Current
<i>Dates</i>	2015 – 2019
<i>Further information</i>	Dr Frances Cunningham T +61 7 3169 4219 E frances.cunningham@menzies.edu.au

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Economic and impact assessment

Aim

To evaluate five selected CRE-IQI Flagship projects, using the 'Framework to Assess the Impact of Translational health research (FAIT)'

Overview

This evaluation approach uses a comprehensive, mixed-methods, four-phase design to evaluate the selected projects, and incorporates a process evaluation to understand researchers' experience of the framework. The assessment measures impact using three proven methods – payback, economic evaluation and narratives – to encourage research translation and assess the wider impact of research. There is scope in the FAIT to customise the domains being used to assess impact based on the focus of each Flagship project.

Outputs to date

- + Ethics approval granted.
- + A protocol paper published in October 2017.
- + Program logic models and metric spreadsheets collaboratively developed with each project team. The models identify key activities and completed or anticipated outputs and outcomes from each of the other five Flagship projects.
- + Interviews contributing to the project narratives conducted with key members of each project team. The narratives will detail the pathway to impact, any unanticipated outcomes of the research, and document non-quantifiable impacts.
- + Ongoing work to develop costing models for each Flagship project.
- + The preliminary findings from the impact assessment of the ABCD National Research Partnership project presented at the PHCRIS Primary Health Care Research Conference in Melbourne in August 2018.
- + Economic and impact assessments of other selected projects are in progress.

Key messages

Preliminary findings indicate that the ABCD Partnership had significant impacts on knowledge advancement, capacity building, economic benefits and policy and legislation in the field of CQI in Indigenous primary health care; moderate impacts on practice change; and limited impacts in terms of community benefit (i.e. health outcomes). The latter proved the most challenging domain to evidence.

<i>Project team</i>	Andrew Searles (Team Leader) ¹ , Chris Doran ² , Shanthi Ramanathan ¹
<i>Project status</i>	Current
<i>Dates</i>	2016 – July 2019
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1 Hunter Medical Research Institute

2 Central Queensland University

Developmental evaluation

Aim

To synthesise and apply lessons from the CRE-IQI's establishment, functioning and outcomes based on its action learning cycle.

Overview

Use of a developmental evaluation approach has allowed real-time feedback and adjustments to be made to the formation and functioning of the CRE-IQI since its establishment. It ensures that there is ongoing adaptive development and improvement in the effectiveness of the CRE-IQI as the research program progresses. Developmental evaluation concepts are being applied in practice at the CRE-IQI through a range of operational aspects including the CRE Management Committee and the bi-annual face-to-face meetings. Every opportunity is taken to draw on participant feedback at different levels of the CRE-IQI to inform its operations, work programs and future directions.

Outputs to date

- + Ethics approval granted.
- + A peer-reviewed publication that conceptualises and defines innovation platforms in the CRE-IQI context.
- + A refined format for the face-to-face meetings.
- + Development and implementation of the Research capacity strengthening principle of 'All teach, all learn' across CRE-IQI activities, including bi-annual meetings and masterclasses.
- + Increased and varied strategies to support Aboriginal and Torres Strait Islander co-leadership and participation.
- + Support for pursuing innovative ideas and processes emerging from the CRE-IQI research.
- + Dissemination of a monthly electronic newsletter.
- + Development of a research translation strategy.
- + The employment of a Research Translation Fellow.

Key messages

The Year 2 and Year 4 Reviews of the CRE-IQI are important developmental evaluation activities. By collating our progress to date, along with key messages, assessment and feedback from external reviewers, they encourage adaptation and reflection among the CRE-IQI team. The developmental evaluation of the CRE-IQI is also the PhD topic of Team Leader Jodie Bailie.

Our experience suggests that developmental evaluation is an appropriate approach for supporting the continued evolution of the CRE-IQI as an Innovation Platform.

<i>Project team</i>	Jodie Bailie (Team Leader) ¹ , Alison Laycock ¹
<i>Project status</i>	Current
<i>Dates</i>	2015 – 2019
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Quality improvement in Indigenous primary health care – The Leveraging Effective Ambulatory Practices (LEAP) project

Aim

To improve the quality of care provided for Aboriginal and Torres Strait Islander Australians, particularly in the areas of maternal and child health and diabetes care, through addressing priority evidence–practice gaps.

Overview

Background: Indigenous primary health care (PHC) services are complex systems, and evidence indicates that many factors affect quality improvement success. However, there remains a knowledge gap regarding what is needed for Indigenous PHC services to improve the quality of care and, subsequently, health outcomes for their clients.

Project description: Working with eight Indigenous PHC services in northern Australia, this project will capitalise on emerging research and existing partnerships to provide a rigorous framework for addressing the challenges that prevent improvement in the quality of maternal and child health and diabetes care. Participating services were recruited through Indigenous and health peak bodies. Services self-nominated on the basis that they were not meeting their own quality goals and had support from the board and staff.

The project, which provides a participatory and strengths-based framework to address factors limiting quality of care in Indigenous PHC services, will answer the following questions:

- + What are the key implementation challenges for ‘striving services’ in reaching their quality of care goals, and how do these interact?
- + What is needed to overcome these key implementation challenges?
- + How acceptable and effective is a toolkit of interventions in improving quality of care among these ‘striving services’?

Working with project partners, peak bodies and eight Indigenous PHC services, we will:

- + Leverage existing national quality improvement practice, research and policy networks.
- + Work with Indigenous PHC services that are engaged in continuous quality improvement but failing to achieve their quality improvement goals (‘striving services’).
- + Create a Learning Community that includes these services, the research team and partners.
- + Conduct case studies with services to identify implementation challenges and their interactions.
- + Collaborate to assemble and modify a toolkit of customisable tools and processes – likely to include site visits, and skills exchanges with other services – to address the identified challenges.

- + Implement selected elements of the toolkit with services to address their priority implementation challenges and quality of care needs.
- + Rigorously assess the effectiveness, impact and acceptability of the intervention using a quality of care index and action research process assessment.

Outputs to date

The project team has convened a project steering committee comprising representatives from the investigation team, peak bodies and project partners. The role of the committee is to oversee conduct of the project and to ensure that a two-way participatory approach to working together is upheld.

The first Learning Community meeting took place in Cairns, Queensland on 15–16 August 2018, involving the following collaborators and partners: James Cook University, University Centre for Rural Health (University of Sydney), Queensland Aboriginal and Islander Health Council, AMSANT, Top End Health, University of Western Australia Centre for Rural Health, North Queensland Primary Health Network (PHN), Western Queensland PHN, Northern Territory PHN and Western Australia Primary Health Alliance.

Next steps

Detailed case studies will be conducted with participant services over a five-month period to identify implementation challenges in reaching quality goals.

<i>Project team</i>	Sarah Larkins (Co-Team Leader) ¹ , Veronica Matthews (Co-Team Leader) ² , Ross Bailie ³ , Jacinta Elston ¹ , Paul Burgess ³ , Emma McBryde ¹ , Kerry Copley ⁴ , Rebecca Evans ¹ , Karen Carlisle ¹
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<i>Project status</i>	Current
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<i>Dates</i>	2017 – 2020
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- 3 Northern Territory Department of Health
- 4 Aboriginal Medical Services Alliance of the NT (AMSANT)

WOMen's action for Mums and Bubs (WOMB): A pragmatic trial of participatory women's groups to improve Indigenous maternal and child health

Aim

To test the effectiveness of a participatory women's group intervention to improve the quality of maternal and child health care and outcomes.

Overview

Background: There is persuasive international research illustrating the effectiveness of participatory women's groups (PWGs) in improving maternal and child health (MCH) outcomes via improved quality of care, women's empowerment and new learning. There is also considerable evidence in Australian Indigenous settings, that the empowerment of women is achieved through participation in PWGs. Despite the published benefits of community participation, few quality improvement interventions in Indigenous primary health care (PHC) have focused on factors beyond services; nor have any explicitly tested community participation aimed at enhancing citizen engagement with health care, or the cost effectiveness of such participation in light of MCH improvements.

Project description: This project will draw on collaborations in continuous quality improvement in Indigenous PHC, and best evidence about community participation in co-design of health services, to test the effectiveness of a PWG intervention to improve the quality of MCH care and outcomes.

The project's key research question is: Do participatory women's groups, as an intervention, improve the quality of Indigenous maternal and child health care? To answer this question, the project must determine:

- + The effectiveness of PWGs in improving quality of care and intermediate outcomes in MCH.
- + The cost-effectiveness of PWGs for improving quality of MCH care.
- + The degree to which PWGs are associated with a change in global empowerment measure scores.

Outputs to date

Drawing on participatory principles and a strengths-based approach involving two-way learning and capacity building, the team will work with 10 Indigenous PHC services in Queensland, New South Wales, Northern Territory, South Australia and Western Australia. PHC services, in association with community women's groups, will nominate two individuals to work as facilitators and attend training workshops. These will involve sharing information about facilitation skills, MCH audit data and working in partnership.

The investigator team has agreed on the project steering committee membership and governance structures. Six Indigenous PHC services across Queensland and northern New South Wales have already agreed to participate, and four other services have expressed interest.

Next steps

Following the workshops, the facilitators will work with the women's groups and health care staff to prioritise action, plan strategies, and develop an MCH improvement plan, which will be co-implemented with progress evaluated through the annual audit cycles. PWGs will share local knowledge and perspectives, focus on building community expectations, encourage community ownership of services, and engage in activism for quality care.

The primary outcome measure for this project is the MCH quality of care index (%) calculated from audit data indicating overall adherence to delivering recommended services.

Secondary outcome measures will include:

- + Percentage of pregnant women having their first antenatal visit before 13 weeks.
- + Mean birthweight.
- + Evaluation of the participatory planning process in terms of women's empowerment, cost effectiveness and cost consequence of the intervention, and satisfaction with the process.

The first investigator face-to-face meeting and facilitator training will take place in Brisbane on 22–26 October 2018.

<i>Project team</i>	Sarah Larkins (Co-Team Leader) ¹ , Catrina Felton-Busch (Co-Team Leader) ¹ , Judy Taylor ¹ , Yvonne Cadet-James ¹ , Ross Bailie ² , Jane Farmer ³ , Megan Passey ² , Veronica Matthews ² , Emily Callander ¹ , Rebecca Evans ¹
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<i>Project status</i>	Current
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<i>Dates</i>	2017 – 2022
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3 Swinburne University

Opening doors: Evaluation of the Maari Ma Health Aboriginal Corporation's Chronic Disease Strategy

Aim

To evaluate the development and implementation of Maari Ma Health Aboriginal Corporation's Chronic Disease Strategy over the past 10 years, and to provide guidance on further work.

Overview

Background: Since the implementation of its Chronic Disease Strategy in 2005, Maari Ma Health Aboriginal Corporation in Far West New South Wales has been using continuous quality improvement processes through its engagement with the Audit and Best Practice for Chronic Disease (ABCD) research program. In 2016 Maari Ma commissioned Menzies School of Health Research to assist with an evaluation of its Chronic Disease Strategy.

Project description: Maari Ma's Strategy takes a whole-of-life course approach, focusing on prevention, early intervention and management of chronic disease. The purpose of the evaluation was to review the development and implementation of the Strategy over the past 10 years and to provide guidance on further work. Using a mixed-methods approach, which drew on interviews, a clinical audit, and program and hospitalisation data, the evaluation was completed between January and December 2016.

Outputs

The evaluation report, launched by the Federal Minister for Indigenous Health, the Hon. Ken Wyatt AM MP, in August 2017, found:

- + The number of patients with diabetes who had abnormal blood pressure halved between 2005 and 2015.
- + In 2005, more than 80 per cent of clients with diabetes recorded an abnormal cholesterol result but this fell to just 20 per cent by 2015.
- + The number of female clients smoking while pregnant reduced from 78 per cent to 66 per cent between 2003 and 2011.
- + The number of health checks increased 10-fold between 2011 and 2015.
- + Clients were still smoking and using alcohol at higher rates than the national average.
- + The proportion of Aboriginal babies born with a low birthweight is still higher than the State average.

Key messages

The main drivers of Maari Ma's achievements were:

- + A long-term commitment to continuous quality improvement and strong leadership from the Board of Directors and executive levels.
- + Good community links and a culturally accessible and safe service.
- + A strong focus on Aboriginal workforce development and a culture of 'two-way learning and working together'.
- + Investment in information technology and clinical information systems.
- + A track record of forming productive partnerships in research and evaluation.
- + The use of data to inform decision making.

<i>Project team</i>	Ross Bailie (Team Leader) ^{1,2} , Jodie Bailie ^{1,2} , Hugh Burke ³ , Cath Kennedy ³ , Frances Cunningham ¹ , Alan Cass ¹
<i>Project status</i>	Completed
<i>Dates</i>	2016
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2 University Centre for Rural health (University of Sydney)

3 Maari Ma Health Aboriginal Corporation

Implementation of health promotion quality improvement tools and processes in the Northern Territory

Aim

To develop greater understanding of the use and potential of health information technology as a method for improving the quality of health promotion practice.

Overview

Background: Health promotion is a complex, multi-factorial process requiring collation, management and sharing of information with diverse stakeholders throughout project development, implementation and evaluation. In clinical settings, health information technology systems have been introduced to manage complex clinical information and improve adherence to best practice health care. However, the use of health information technology as a method for improving quality of health promotion practice is not well understood.

Project description: The health promotion audit tool was developed during the Audit and Best Practice for Chronic Disease (ABCD)/One21seventy project. It was part of a suite of tools designed to support the use of continuous quality improvement (CQI) processes in primary health care services. Using the tool, we conducted a retrospective analysis of health promotion projects delivered between 2013 and 2016 by staff at Northern Territory Health (NT DoH). We reviewed project data recorded in a health promotion information system (QIPPS) for adherence to key aspects of quality health promotion practice.

Our results found that the scope and quality of health promotion practice showed room for improvement. Only 51 per cent of projects recorded evidence of community participation, primarily consultation activities such as meetings, focus groups, surveys and interviews that were limited to the project planning stage. Two-thirds (66%) recorded partnerships with other services, and just over half (57%) of these partnerships were with organisations beyond the health sector. Only 38 per cent had documented results of an evaluation.

The implication of these findings is that the existence of an information system, in and of itself, is insufficient for ensuring high-quality health promotion practice. As such, efforts to expand information systems in health promotion should focus on improving this technology for health promotion performance reporting. They should also focus on developing systems for better knowledge management, as well as methods for implementing and integrating these systems into routine practice.

Outputs to date

This research, and our partnership, supported the development of a business case to secure ongoing funding for a NT DoH health promotion information system that would enable a systematic and standardised approach to health promotion project planning, evaluation and reporting.

The project findings were presented at the PHAA Public Health Prevention Conference (2–3 May 2018), and a manuscript is also in progress. The conference presenter and lead author of the manuscript is a NT DoH representative, which demonstrates workforce capacity building both in the use of CQI tools and in the dissemination of research findings.

Key messages

- + There is room for improvement in the scope, quality and recording of health promotion practice.
- + Information systems for health promotion need to focus on knowledge management, and on new methods for implementing and integrating health promotion information systems within routine primary health care practice.
- + This research is building workforce capacity in the use of CQI tools and the dissemination of research findings.

Next steps

The health promotion CQI tools, and our knowledge and understanding of health promotion information systems for data collection, sharing and reporting, will contribute to a newly funded research project, led by Liz Moore at Aboriginal Medical Services Alliance NT, to develop and pilot non-clinical indicators in Aboriginal primary health care.

<i>Project team</i>	Nikki Percival (Team Leader) ¹ , Priscilla Boucher ² , Julie Cook ² , Kate Robertson ² , Kathleen Conte ^{3,4}
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<i>Project status</i>	Current
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<i>Dates</i>	2014 – current, ongoing
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<i>Further information</i>	Dr Nikki Percival T +61 2 9514 5232 E Nikki.Percival@uts.edu.au
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- 4 University Centre for Rural Health (University of Sydney)

Development of indicators and quality improvement tools for tobacco control programs in Indigenous communities

Aim

To develop quality indicators and audit tools for a comprehensive tobacco control program for use in a range of health care services and related organisations.

Overview

Background: Aboriginal and Torres Strait Islander people have some of Australia's highest rates of tobacco consumption, which is directly correlated to a range of chronic health conditions. Targeted tobacco control programs are beginning to cut smoking rates among Indigenous people but there is an ongoing need to develop tools to support these interventions. Much of this work has been led by researchers at the Menzies School of Health Research who, with funding from the National Heart Foundation of Australia (NT Division), have developed a tobacco control audit tool and an associated protocol.

Project description: The quality indicators and associated audit tool, protocol and tally sheets were developed in consultation with staff of the National Heart Foundation of Australia (NT Division), Northern Territory Department of Health, Miwatj Health Aboriginal Corporation, Aboriginal Medical Services Alliance NT, Aboriginal Health & Medical Research Council of New South Wales and Charles Darwin University. The project was completed in Year 2 of the CRE-IQI.

Outputs

The main outputs of this project have been:

- + The tobacco control audit tool, the associated protocol and tally sheets.
- + An e-learning module (available on One21seventy project page at www.menzies.edu.au).

Key messages

The tool is designed to audit all aspects needed for a comprehensive tobacco control program, including:

- + Clinical tobacco control activities for individual clients.
- + Health promotion activities.
- + Systems to support tobacco control programs.

The use of the tool should assist organisations to re-orient their systems and services towards evidence-based tobacco control practices and policies, and so expand the reach of high-quality tobacco control programs.

This work may also contribute to the development and piloting of non-clinical indicators in Aboriginal and Torres Strait Islander primary health care.

<i>Project team</i>	David Thomas (Team Leader) ¹ , Nikki Percival ² , Marita Hefler ¹
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<i>Project status</i>	Completed
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<i>Dates</i>	2015 – May 2016
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Evaluating the CQI approach for program impact and diversification of the Remote Management Program: A feasibility study

Aim

To evaluate the impact of a continuous quality improvement (CQI) approach on the Remote Management Program (RMP). This includes the feasibility of upscaling the program; the program's relevance for Indigenous managers; and investigating how a customised management program could better meet the needs of all remote health managers.

Overview

Background: The Remote Management Program is a professional development program customised to meet the needs of Indigenous, allied health and nurse managers working in remote and isolated health services. When the RMP was piloted in 2016, a review of the program revealed that the managers who participated in the pilot had found it beneficial. This research project was conducted through a partnership comprising CRANaplus, the Australian College of Health Service Management and James Cook University to build on the insights gained from the pilot program review.

Project description: A scoping literature review to examine the characteristics of studies that use CQI approaches to evaluate management development programs found that CQI processes are not widely used. However, when a CQI approach was employed, 'action learning' (i.e. the application of skills in a workplace-based project) was the most frequently used CQI approach to evaluation beyond the level of participant satisfaction.

The subsequent evaluation of the RMP revealed that the workplace-based CQI projects undertaken by RMP participants potentially provide evidence that is suitable for conducting a cost-benefit analysis of the program. The evaluation also investigated the feasibility of future research into diversifying and scaling-up the RMP.

Outputs

The combination of industry/academic publications and presentations arising from this study means that the research findings have reached a wide audience. The outputs include:

- + 6 newsletter articles
- + 2 academic publications (one in press and one under review)
- + 1 conference paper (under review)
- + 1 abstract for a 2019 conference (submitted).

Key messages

- + There is potential benefit in managers leveraging support from existing CQI systems (e.g. CQI Facilitators, Managers' Systems Assessment Tool) when implementing their workplace-based CQI projects. This in turn may increase the benefits of the RMP and CQI for health services and provide ongoing CQI support for remote managers.
- + There is a sense that the current format and content of the RMP is suitable for all managers as long as the current small group, individualised format continues.
- + Project findings support the view that managers have a significant influence over remote workplaces and the successful implementation of change. Therefore, if managers are supportive of CQI systems and processes, CQI is more likely to gain traction in remote health services.
- + Data show that the RMP has a role in improving the health and wellbeing of participants, as it appears that attending the workshop and connecting with others who can relate to their 'remote' management experience is beneficial in itself.

Next steps

- + To build on the potential evidence identified in this case study for a more rigorous research design to investigate the potential of the RMP's workplace-based CQI projects for conducting a cost-benefit analysis.
- + To undertake a more in-depth analysis of the transition from clinician to manager in remote settings to further understand the barriers and enablers of developing management competence and good individual self-care, i.e., investigating the reasons why some managers thrive yet others barely survive.

<i>Project team</i>	Leigh-Ann Onnis (Team Leader) ¹ , Marcia Hakendorf ² , Mark Diamond ³ , Tahalani Hunter ¹ , Komla Tsey ¹
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<i>Project status</i>	Current
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<i>Dates</i>	October 2017 – June 2019
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² CRANaplus

³ Australian College of Health Service Management

Aremelle Arratyenye-ileme – Doing it Right: Research knowledge generation and translation in Central Australia

Aim

To improve knowledge exchange, generation and translation so that Aboriginal community members, Aboriginal community controlled health organisations (ACCHOs) and board members have more control over health research, its outcomes and benefits in Central Australia.

Overview

Background: This project is based on the proposition that improving community understanding of research and researchers' understanding of community will lead to more meaningful engagement in research. This should result in better-targeted research that fits community needs and delivers outcomes that communities understand, share widely and benefit from (knowledge translation).

The definition of the term 'knowledge translation' has been workshoped and developed in the context of the work with which the Central Australian Aboriginal Congress is involved as the largest ACCHO in the Northern Territory. The working definition to date, yet to be endorsed by the Congress Board, is as follows:

Knowledge translation is two-way learning between partners working together to make research processes more equitable, culturally safe and relevant; and research outcomes more accessible, useful and actionable.

Project description: Funded by the Lowitja Institute, the Doing it Right project is a collaboration between Congress staff, from the communications, interpreter services and research sections, and external researchers from Menzies School of Health Research and the University of Sydney who have expertise in knowledge translation and quality improvement. The project team is working with six community health boards:

- + Central Australian Aboriginal Congress
- + Mpwelarre (Santa Teresa)
- + Utju (Areyonga)
- + Western Arrernte Health Aboriginal Corporation (Ntaria and Wallace Rockhole)
- + Amoonguna
- + Mutitjulu.

The project team has begun the process of translating the six core values of ethical conduct in research with Aboriginal and Torres Strait Islander peoples and communities – Spirit and Integrity, Reciprocity, Respect, Equity, Cultural Continuity, and Responsibility – as per *Keeping Research on Track II* (NH&MRC 2018). The knowledge translation work around these core values provides a means for external researchers to work and communicate effectively with community, and facilitates a shared understanding of what constitutes working collaboratively.

The project is also informed by the Congress Research Staff Survey. With 47 per cent of Congress staff identifying as Aboriginal, this survey was able to provide feedback on the health research ideologies and priorities both of Congress as a health service provider and of the Aboriginal communities that it serves. A link to the survey was emailed to each of the 407 Congress staff members working across all town and remote locations. A total of 111 people responded, representing a 27 per cent response rate.

So far, the team has met with the Mpwelarre Health Service and the Utju Health Service boards and is collaborating with them on the translation of the six core values of conducting research; how each community would like research to be carried out; setting the research priorities; and what forms of communication and dissemination they would prefer.

Outputs to date

As part of multimedia and communications training, the Doing it Right team created a video in which they interview themselves about the research, their roles and the importance of conducting research in and for Aboriginal communities. The video has so far been shown in the board meetings of the Mpwelarre and Utju health services to give community members a range of views from all of the research team rather than just those who can attend in person.

Next steps

The project team is scheduling meetings with the other community health boards, and will conduct community follow-ups to discuss the project in more detail between September and December 2018.

Project team Bronwyn Silver (Team Leader)¹, Annette McCarthy¹, Roxanne Highfold¹, Ken Lechleitner¹, Walbira Murray¹, Ainsley McKenzie¹, Glen Sharpe¹, Kate Buckland¹, Jeff Tan¹, Delyna Baxter¹, Danielle Woods¹

Partners: Heather D'Antoine², Ross Bailie³, Veronica Matthews³, Leisa McCarthy², Louise Clarke²

Project status Current

Dates 2017 – 2018

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B.strong: Queensland Health Aboriginal and Torres Strait Islander Brief Intervention Training Program

Aim

To build the capacity of Queensland's Aboriginal and Torres Strait Islander health workers in delivering brief interventions to their clients in the key areas of smoking, nutrition and physical activity.

Overview

Background: There are significant differences in health outcomes for Aboriginal and Torres Strait Islander people living in Queensland compared with the rest of the population, resulting in a 10-year life expectancy gap. Many of these differences can be addressed by changing three modifiable lifestyle factors – smoking, nutrition and physical activity.

Project description: The B.strong program is giving Queensland's Aboriginal and Torres Strait Islander health and community workforce the knowledge, skills and tools needed to provide brief interventions promoting healthy changes to their clients through addressing multiple behavioural risks. Combining brief interventions for multiple risk factors can improve health outcomes by providing a clinical framework to guide screening and intervention.

The B.strong program is providing culturally appropriate training and resource material across Queensland to government operated and community controlled health services in all Hospital and Health Service regions, as well as in non-health community settings such as schools and correctional facilities. Training is delivered by Menzies School of Health Research staff and includes:

- + 1-day face-to-face workshop
- + 6 online modules
- + practitioner kits and client resources.

The program is based on the SmokeCheck Brief Intervention Training Program and the Lifestyle Program (nutrition and physical activity) previously delivered by Queensland Health. B.strong applies a continuous quality improvement perspective through aligning with current clinical practice, encouraging use of brief interventions in the client pathway with adult health checks. Training covers the recording of brief intervention details in patient record information systems and the importance of monitoring and reviewing client progress.

Outputs to date

- + B.strong has trained 618 participants in 46 workshops across Queensland (as at 24 August 2018).
- + The highest proportion of participants had roles as Aboriginal and/or Torres Strait Islander Health Practitioners or Health Workers or as Indigenous Liaison Officers (43% of participants).
- + 72% of workshop participants identified as being of Aboriginal and/or Torres Strait Islander descent.
- + The highest workshop uptake is from Aboriginal and Torres Strait Islander community controlled health organisations (33%), community care centres (32%), and hospitals and health services (22.2%).

Next steps

- + To increase practitioner access to brief intervention training.
- + To deliver more brief intervention services to Aboriginal and Torres Strait Islander clients in primary and community care settings.
- + To assess and refer more clients to early intervention programs and services.
- + To improve understanding and awareness of key risk factors for chronic disease in Aboriginal and Torres Strait Islander communities over the longer term.

Project team Frances Cunningham (Project Leader/Chair)¹

Project Steering Group: David Thomas¹,
Majella Murphy¹, Rachael Bagnal²,
Heather D'Antoine¹, Melinda Hammond³,
Peter D'Abbs¹, Simone Nalatu⁴

Project status Current

Dates 2017 – 2019

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- 1 Menzies School of Health Research (Charles Darwin University)
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- 4 Queensland Department of Health

Assessing and guiding system improvement for delivery of preventive health care for Aboriginal and Torres Strait Islander Australians: Validating a data collection and measurement tool

Aim

To refine the ABCD Systems Assessment Tool for supporting Aboriginal and Torres Strait Islander primary health care (PHC) services to improve links with their community, and with other health and social services in the community, for preventive care.

Overview

Background: Improving levels of delivery and quality of preventive health care is challenging because it requires a transformational change in the organisation of health care delivery systems. Specifically, effective preventive health care requires moving beyond clinical services to include links with the community and inter-sectoral collaborations. Health systems struggle with how this reorientation could be achieved.

Since 2002, PHC services across Australia have used the Audit and Best Practice for Chronic Disease (ABCD) Systems Assessment Tool to undertake a structured, systematic assessment of health centre systems that support good clinical care. This has resulted in improved health system functioning, delivery of care and outcomes in diabetes, chronic diseases and maternal health. However, of the system components considered necessary for delivering high-quality health care, component (4) – *Links with Community, other Health Services and Organisations* – is the least understood and tested for the delivery of preventive health care.

Project description: Using qualitative and quantitative data from the ABCD continuous quality improvement (CQI) program, we aimed:

- + To understand how PHC services link with community, other health services and non-health services in their community.
- + To determine whether these linkages improved with increased systems assessment cycles.
- + To ascertain whether linkages were associated with improved delivery of important preventive chronic disease indicators.

We hypothesised that PHC community linkages would play an important role in improving obesity, risky alcohol use and the delivery of social and emotional wellbeing services within a primary health care setting. Our finding was that PHC community linkages did not improve over successive use of the systems assessment cycles. However, there were some effects for different components of clinical–community links and different preventive health indicators. We also found that systems are not well established or are patchy for linkages with community, and not specifically designed or strengthened to support the delivery of preventive health care.

In March 2018, we secured funding from the University of Technology Sydney (external partner) to undertake a review of the ABCD Systems Assessment Tool. The review will examine

how the tool could be improved to support and enable PHC services to assess and guide improvements for ‘community linkages’ in the delivery of preventive health care. Interviews with CQI facilitators and primary health care practitioners and researchers are now underway as part of this review.

Outputs to date

- + A manuscript analysing the ABCD dataset is in preparation.
- + Team Leader Nikki Percival was invited by The Partnership Prevention Centre (TAPPC) to present at the Primary Health Network Prevention Symposium in Canberra on 23 August 2018.
- + Representatives from the North Queensland Primary Health Network have expressed interest as a potential research partner in the CRE-IQI expression of interest: *Strengthening Systems and Collaborations for Chronic Disease Prevention in Indigenous Communities*.
- + The research has also attracted strong interest from potential research partners in other jurisdictions as well as national policy stakeholders.

Key messages

Primary health care systems need to be stronger, or designed differently, to support health centre–community linkages for preventive health care.

Next steps

Results from the current review of the ABCD Systems Assessment Tool will be available and discussed as part of a masterclass offered in conjunction with the upcoming CRE-IQI biennial meeting in October 2018.

<i>Project team</i>	Nikki Percival (Team Leader) ¹ , Veronica Matthews ² , Paul Burgess ³ , Elizabeth Denny-Wilson ⁴ , Janya McCalman ⁵ , Jodie Baillie ² , Priscila Boucher ³ , Carla Saunders ¹
<i>Project status</i>	Current
<i>Dates</i>	January – December 2018
<i>Further information</i>	Dr Nikki Percival T +61 2 9514 5232 E Nikki.Percival@uts.edu.au

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- 3 Northern Territory Department of Health
- 4 University of Sydney
- 5 Central Queensland University

VOICE: Validating Outcomes by Incorporating Customer Evaluation

Aim

To develop and introduce customer evaluation of primary health care (PHC) episodes of care as a quality indicator in its own right, but also as a means for facilitated discussion around reorientation of PHC services to better meet customer needs.

Overview

Background: This project builds on previous work through the CRE-IQI in developing a National Health and Medical Research Council (NH&MRC) grant application on the Development of a Community Engagement Toolkit for Quality Improvement in Primary Health Care. Submitted in early 2015 the grant application was unsuccessful, but the work underpinning it provided an important foundation and stimulated substantial dialogue that has fed into the development of this new proposal.

Project description: This project focuses on developing and introducing customer satisfaction assessment of PHC episodes of care as a quality indicator in its own right, and also as a means for facilitated discussion by health centres around the reorientation of their PHC services to improve their ability to meet customers' needs. The hypothesis is that achieving better customer satisfaction can lead to stronger community engagement with PHC services leading to improved health outcomes in the longer term. A new application for a NH&MRC Partnership Grant has been made to fund this project.

Next steps

- + To progress the project pending the outcome of the current funding application.

<i>Project team</i>	Paul Burgess (Team Leader in Transition) ¹ , Ross Bailie ² , Frances Cunningham ³ , Louise Clark ³ , Deborah Askew ⁴ and teams from Aboriginal Health Council of SA, Aboriginal Medical Services Alliance NT, Central Australian Aboriginal Congress, James Cook University, Menzies School of Health Research
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<i>Project status</i>	On hold
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<i>Further information</i>	Professor Ross Bailie T +61 266 207 231 E ross.bailie@sydney.edu.au
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- 3 Menzies School of Health Research (Charles Darwin University)
- 4 The University of Queensland

Appendix 2

Addressing our Research Aims and Work Programs

Projects

Flagship projects

Engaging stakeholders in identifying priority evidence–practice gaps and strategies for improvement in primary health care (ESP project)

Ongoing analysis and reporting of data from the ABCD National Research Partnership

Quality improvement in Aboriginal primary health care: Lessons from the best to better the rest

CQI approaches to sustainable implementation of social and emotional wellbeing programs and services

Strategies for improving provision of maternal health care for Aboriginal and Torres Strait Islander women

Monitoring and evaluation of the CRE-IQI as an innovation platform

Aligned priority projects

Quality improvement in Indigenous primary health care – The Leveraging Effective Ambulatory Practices (LEAP) project

WOmen’s action for Mums and Bubs (WOMB): A pragmatic trial of participatory women’s groups to improve Indigenous maternal and child health

Opening doors: Evaluation of the Maari Ma Health Aboriginal Corporation’s Chronic Disease Strategy

Implementation of health promotion quality improvement tools and processes in the Northern Territory

Development of indicators and quality improvement tools for tobacco control programs in Indigenous communities

Evaluating the CQI approach for program impact and diversification of the Remote Management Program: A feasibility study

Aremelle Arratyenyne-ileme – Doing it Right: Research knowledge generation and translation in Central Australia

Emerging priority projects

B.strong: Queensland Health Aboriginal and Torres Strait Islander Brief Intervention Training Program

Assessing and guiding system improvement for delivery of preventive health care for Aboriginal and Torres Strait Islander Australians: Validating a data collection and measurement tool

VOICE: Validating Outcomes by Incorporating Customer Evaluation

PhD projects

Supporting the formation, function and outcomes of a national research partnership through a developmental evaluation

Strengthening health systems to improve tuberculosis contact screening and management in Mimika, Indonesia

Evaluation of the impact of the Queensland Health Indigenous Brief Intervention Training (B.strong) Program

Khusela immunisation study: Strengthening clinic-level immunisation service delivery in Western Cape Province, South Africa

Immunisation coverage and correlates of high coverage in health services for Aboriginal and Torres Strait Islander people

Supporting knowledge translation in Aboriginal and Torres Strait Islander primary health care: A developmental evaluation of a stakeholder engagement process to identify evidence practice gaps and strategies for improvement

Patterns of cancer care of Aboriginal and Torres Strait Islander cancer patients at the primary health care setting

The consumer’s perspective of chronic condition care quality in the remote Aboriginal primary health care context

Appendix 3

Parliamentary Submissions

2018

Bailie, R., Bailie, J. & Laycock, A. 2018. Submission to the '*Senate Select Inquiry into the Obesity Epidemic in Australia*' on behalf of the Centre for Research Excellence in Integrated Quality Improvement. CRE-IQI, Lismore. Available at: <http://apo.org.au/node/180986>.

Cunningham, F., Murphy, M. & Hornby-Turner, Y. 2018. Submission to the '*Senate Select Inquiry into the Obesity Epidemic in Australia*' on behalf of Menzies School of Health Research. MSHR, Brisbane. Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Obesity_epidemic_in_Australia/Obesity/Submissions.

Bailie, J., Laycock, A. & Bailie, R. 2018. Submission to the '*Close the Gap Refresh*' on behalf of the Centre for Research Excellence in Quality Improvement. CRE-IQI, Lismore. Available at: <http://apo.org.au/node/140071>.

Matthews, V., Bailie, J., Laycock, A. & Bailie, R. 2018. Submission to the '*Senate Inquiry on Accessibility and Quality of Mental Health Services in Rural and Remote Australia*' on behalf of the Centre for Research Excellence in Integrated Quality Improvement. CRE-IQI, Lismore. Available at: <http://apo.org.au/node/171911>.

Appendix 4 Publications

Peer-reviewed articles

2018

Onnis, L., Hakendorf, M. & Tsey, K. How are continuous quality improvement approaches used in evaluating management development programs: A literature review. *Asia Pacific Journal of Health Management* (accepted for publication).

Strobel, N., McAuley, K., Matthews, V., Richardson, A., Agostino, J., Bailie, R., Edmond, K., McAullay, D., 2018. Understanding the structure and processes of care within primary health care delivery for Australian Aboriginal and Torres Strait Islander children. *Journal of Primary Health Care*, 2018.

Edmond, K., Tung, S., McAuley, K., Strobel, N. & McAullay, D. 2018. Improving developmental care in primary practice for disadvantaged children. *Archives of Disease in Childhood*, 0:1–9.

Nattabi, B., Girgis, S., Matthews, V., Bailie, R. & Ward, J. 2018. Clinic predictors of better syphilis testing in Aboriginal primary health care: A promising opportunity for primary health care service managers. *Australian Journal of Primary Health*, 24(4):350–8.

Read, C., Mitchell, A., de Dassel, J., Scrine, C., Hendrickx, D., Bailie, R. & Ralph, A. 2018. Qualitative evaluation of a complex intervention to improve rheumatic heart disease secondary prophylaxis. *Journal of the American Heart Association*, 7(14).

Ralph, A., de Dassel, J., Bailie, R., Read, C., Mitchell, A., Maguire, G. & Carapetis, J. 2018. Improving delivery of secondary prophylaxis for rheumatic heart disease in a high-burden setting: Outcome of a stepped-wedge, community, randomized trial. *Journal of the American Heart Association*, 7(14).

Onnis, L., Klieve, H. & Tsey, K. 2018. The evidence needed to demonstrate impact: A synthesis of the evidence from a phased social and emotional wellbeing intervention. *Evaluation and Program Planning*, 70:35–43.

Cunningham, F., Matthews, V., Sheahan, A., Bailie, J. & Bailie, R. 2018. Assessing collaboration in a national research partnership in quality improvement in Indigenous primary health care: A network approach. *Frontiers in Public Health*, 6(182):1–17.

Bailie, J., Boyle, J. & Bailie, R. 2018. Population attributable fractions of perinatal outcomes for nulliparous women associated with overweight and obesity, 1990–2014 (Letter to the Editor). *The Medical Journal of Australia*, 208(11):505–06.

Meiklejohn, J., Arley, B., Bailie, R., Adams, J., Garvey, G., Martin, J., Walpole, E. & Valery, P. 2018. Community-identified recommendations to enhance cancer survivorship for Aboriginal and Torres Strait Islander people. *Australian Journal of Primary Health*, 24(3):233–40.

Bailie, J., Cunningham, F., Bainbridge, R., Passey, M., Laycock, A., Bailie, R., Larkins, S., Brands, J., Ramanathan, S., Abimbola, S. & Peiris, D. 2018. Comparing and contrasting ‘innovation platforms’ with other forms of professional networks for strengthening primary health care systems for Indigenous Australians. *BMJ Global Health*, 3(3).

McPhail-Bell, K., Matthews, V., Bainbridge, R., Redman-MacLaren, M. L., Askew, D., Ramanathan, S., Bailie, J. & Bailie, R. 2018. An ‘all teach, all learn’ approach to research capacity strengthening in Indigenous primary health care continuous quality improvement. *Frontiers in Public Health*, 6:107.

McCalman, J., Bailie, R., Bainbridge, R., McPhail-Bell, K., Percival, N., Askew, D., Fagan, R. & Tsey, K. 2018. Continuous Quality Improvement and Comprehensive Primary Health Care: A Systems Framework to Improve Service Quality and Health Outcomes. *Frontiers in Public Health*, 6:76.

Bailie, J., Matthews, V., Laycock, A., Connors, C. & Bailie, R. 2018. Rigorous follow-up systems for abnormal results are essential to improve health outcomes for Aboriginal and Torres Strait Islander people. *Australian Journal of Primary Health*, 24(1):1.

Gibson-Helm, M. E., Bailie, J., Matthews, V., Laycock, A. F., Boyle, J. A. & Bailie, R. S. 2018. Identifying evidence-practice gaps and strategies for improvement in Aboriginal and Torres Strait Islander maternal health care. *PLoS One*, 13(2).

Edmond, K. M., McAuley, K., McAullay, D., Matthews, V., Strobel, N., Marriott, R. & Bailie, R. 2018. Quality of social and emotional wellbeing services for families of young Indigenous children attending primary care centres; a cross sectional analysis. *BMC Health Services Research*, 18(1):100.

- Bailie, R., Larkins, S. & Broughton, E. (eds) 2017. Continuous Quality Improvement-Advancing Understanding of Design, Application, Impact and Evaluation of CQI Approaches (Research Topic eBook). *Lausanne: Frontiers Media*.
- Bailie, R., Bailie, J., Larkins, S. & Broughton, E. 2017. Continuous quality improvement: Advancing understanding of design, application, impact and evaluation of CQI approaches (Editorial). *Frontiers in Public Health*, 5:306.
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- Bailie, J., Matthews, V., Laycock, A., Schultz, R., Burgess, C. P., Peiris, D., Larkins, S. & Bailie, R. 2017. Improving preventive health care in Aboriginal and Torres Strait Islander primary care settings. *Globalization and Health*, 13(1):48.
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2014

Matthews, V., Schierhout, G. & McBroom, J. 2014. Duration of CQI participation: A key factor explaining improvement in delivery of type 2 diabetes services to Aboriginal and Torres Strait Islander communities. *BMC Health Services Research*, 14:578.

Peer-review publications (submitted)

2018

Laycock, A., Harvey, G., Percival, N., Cunningham, F., Bailie, J., Matthews, V., Copley, K., Patel, L. & Bailie, R. Application of the i-PARIHS Framework for enhancing understanding of interactive dissemination to achieve wide-scale improvement in Indigenous primary healthcare. Submitted to *Health Research Policy and Systems*.

de Witt, A., Cunningham, F., Bailie, R., Percival, N., Adams, J. & Valery, P. 'It's just presence', the contributions of Aboriginal and Torres Strait Islander health professionals in cancer care in Queensland. Submitted to *Frontiers in Public Health*.

Bailie, J., Laycock, A., Matthews, V., Peiris, D., Bailie, R. et al. Emerging evidence of the value of health assessments for Aboriginal and Torres Strait Islander people in the primary care setting. Submitted to *Australian Journal of Primary Care*.

Larkins, S., Carlisle, K., Taylor, J., Turner, N., Copley, K., Cooney, S., Wright, R., Thompson, S. & Bailie, R. Implementation and systems factors influencing continuous quality improvement: Multiple case studies with high-improving Aboriginal and Torres Strait Islander primary health care services. Submitted to *Implementation Science*.

Cunningham, F., Ranmuthugala, G., Westbrook, J. & Braithwaite, J. Tackling the wicked problem of health networks: The design, release and testing of an evaluation framework. Submitted to *BMJ Open*.

Laycock, A., Bailie, J., Percival, N., Matthews, V., Cunningham, F., Harvey, G., Copley, K., Patel, L. & Bailie, R. Wide-scale continuous quality improvement: A study of stakeholders' use of quality of care reports at various system levels, and factors mediating use. Submitted to *Frontiers in Public Health*.

Kinchin, I., Heyeres, M., Whatley, E., Brophy, L., Jago, J., Wintzloff, T., Morton, S., Mosby, V., Gopalkrishnan, N. & Tsey, K. Evaluation of a residential mental health recovery service in North Queensland. Submitted to *Frontiers in Public Health*.

Tsey, K., Onnis, L., Whiteside, M., McCalman, J., Lui, S., Klieve, H., Cadet-James, Y., Baird, L., Brown, C., Watkin Lui, F., Grainger, D., Gabriel, Z., Millgate, N., Cheniart, B., Heyeres, M., Hunter, T., Liu, H., Yingbong, Y., Yan, L., Williams, M., Lovett, R. & Chong, A. Assessing research impact: The case of Family Wellbeing empowerment research. Submitted to *Evaluation and Program Planning*.

Onnis, L., Tsey, K., Hakendorf, M. & Moylan, R. Can integrating workplace health and wellbeing initiatives into existing leadership programs provide a sustainable solution for improving the health, wellbeing and performance of managers? Submitted to *Australia & New Zealand Academy of Management (Conference Proceedings)*.

Research and technical reports, evaluations, summaries, key messages, policy briefs

2017

Nattabi, B., Girgis, S., Matthews, V., Crawford, K., Bailie, R. & Ward, J. 2017. *Report: System level (organisational) predictors associated with better syphilis testing in primary health care settings for Aboriginal populations: New evidence for managers and policy makers*. Western Australia Centre for Rural Health, July.

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2016

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Gibson-Helm, M., Bailie, J., Matthews, V., Laycock, A., Boyle, J. & Bailie, R. 2016. *Priority evidence-practice gaps in Aboriginal and Torres Strait Islander maternal health care: Final report*. ESP Project, Menzies School of Health Research, July. Available at: <http://apo.org.au/node/65871>.

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Matthews, V., Bailie, J., Laycock, A., Nagel, T. & Bailie, R. 2016. *Priority evidence–practice gaps in Aboriginal and Torres Strait Islander mental health and wellbeing care: Final report*. ESP Project, Menzies School of Health Research, October. Available at: <http://apo.org.au/node/68269>.

Laycock, A., Matthews, V., Bailie, J., Nagel, T. & Bailie, R. 2016. *Key messages – Mental health and wellbeing care*. ESP Project, Menzies School of Health Research, October.

Bailie, J., Matthews, V., Laycock, A. & Bailie, R. 2016. *Priority evidence–practice gaps in Aboriginal and Torres Strait Islander acute rheumatic fever and rheumatic heart disease care: Final report*. ESP Project, Menzies School of Health Research, November. Available at: <http://apo.org.au/node/70917>.

Laycock, A., Bailie, J., Matthews, V. & Bailie, R. 2016. *Key messages – Acute rheumatic fever and rheumatic heart disease care*. ESP Project, Menzies School of Health Research, November.

CRE-IQI Coordinating Centre 2016. *Interim Report for CRE-IQI; Year 2 Review*. CRE-IQI, Menzies School of Health Research, December.

Bailie, J., Burke, H., Kennedy, C., Cunningham, F., Dyer, C., Files, J., Kemp, K., Cass, A. & Bailie, R. 2016. *Opening doors: Evaluation of Maari Ma Health Aboriginal Corporation's chronic disease strategy*. Maari Ma Health Aboriginal Corporation and Menzies School of Health Research, December. Available at: <http://apo.org.au/node/129371>.

2015

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Bailie, J., Yule, J., Schierhout, G., Laycock, A., Bailie, R. & Cunningham, F. 2015. *Partnering to Improve Aboriginal and Torres Strait Islander primary health care – ABCD National Research Partnership engagement and impact*. Menzies School of Health Research, May. Available at: <http://apo.org.au/node/55532>.

Bailie, J., Yule, J., Schierhout, G., Laycock, A., Bailie, R. & Cunningham, F. 2015. *Quality of primary health care for Aboriginal and Torres Strait Islander people in Australia: Key research findings and messages for action from the ABCD National Research Partnership project*. Menzies School of Health Research, May.

Newham, J. & Cunningham, F. 2015. *Continuous quality improvement success stories: Identifying effective strategies for CQI in Aboriginal and Torres Strait Islander primary health care – Study report*. ABCD National Research Partnership Project, Menzies School of Health Research.

2014

Bailie, R., Matthews, V., Bailie, J. & Laycock, A. 2014. *Final report: Primary health care for Aboriginal and Torres Strait Islander children: Priority evidence–practice gaps and stakeholder views on barriers and strategies for improvement*. Menzies School of Health Research, December. Available at: <http://apo.org.au/node/55659>.

D'Aprano, A. 2014. *Improving developmental monitoring practices of remote Australian Aboriginal health workers*. PhD Thesis, December.

Puszka, S., Nagel, T., Nori, A., Daniel, V., Williams, E. & Matthews, V. 2014. *Development of the One21seventy youth audit tool: Final report*. Menzies School of Health Research, December.

Appendix 5

Presentations

Conferences, symposiums and seminars

2018

Ramanathan, S., Laycock, A., Bailie, J., Matthews, V., Bailie, R. & Searles, A. 'Maximising value by increasing usability of research findings: Assessing the impact of a novel participatory approach to disseminating findings from an Indigenous primary healthcare project'. NHMRC Symposium on Research Translation, Sydney, November 2018.

Bailie, R. & Matthews, V. 'Integrated Quality Improvement: Collaborative research in Aboriginal and Torres Strait Islander health'. Menzies Centre for Health Policy (University of Sydney) Seminar, Sydney, August 2018.

Larkins, S., Turner, N., Carlisle, K., Matthews, V., Felton-Busch, C. & Taylor, J. 'Better ways to work together in Aboriginal and Islander health research'. PHC Research Conference, Melbourne, August 2018.

Ramanathan, S., Searles, A., Bailie, J., Cunningham, F. & Bailie, R. 'The impact of quality improvement research in Indigenous primary healthcare'. PHC Research Conference, Melbourne, August 2018.

Laycock, A., Bailie, J., Percival, N., Harvey, G., Cunningham, F., Matthews, V., Copley, K., Patel, L. & Bailie, R. 'Wide-scale continuous quality improvement: Stakeholders' use of quality of care reports'. PHC Research Conference, Melbourne, August 2018.

Cunningham, F. & Murphy, M. 'Aboriginal and Torres Strait Islander Brief Intervention Training Program'. Queensland Nutrition Network Meeting, Brisbane, May 2018.

Cunningham, F. 'B.strong – Aboriginal and Torres Strait Islander Brief Intervention Training Program'. Queensland HealthPathways Coordinators Network Meeting, Brisbane, April 2018.

2017

Laycock, A. 'Using developmental evaluation in a CQI data sharing and analysis project in Aboriginal and Torres Strait Islander health'. Australasian Evaluation Society Seminar (International), Adelaide, December 2017.

Laycock, A. 'Strengthening dissemination and use of quality improvement data from Aboriginal and Torres Strait Islander health centres – A developmental evaluation'. Higher Degree Researcher Seminar, University Centre for Rural Health, Lismore, November 2017.

Nattabi, B., Rumbold, A., Matthews, V., Gibson-Helm, M., Boyle, J., Larkins, S. & Bailie, R. 'Syphilis screening in pregnancy at Indigenous primary health centres in Australia'. Australasian Sexual Health Conference (International), Canberra, November 2017.

Larkins, S., Turner, N., Carlisle, K., Taylor, J., Copley, K. & Bailie, R. 'Quality improvement is everybody's business: Lessons from the best in community driving health improvement'. 6th Annual NHMRC Symposium on Research Translation, Brisbane, November 2017.

Laycock, A., Bailie, J., Matthews, V., Cunningham, F., Harvey, G., Percival, N. & Bailie, J. 'Driving system-wide primary healthcare improvement: Stakeholder perspectives and actions following a CQI data sharing and analysis project'. 6th Annual NHMRC Symposium on Research Translation, Brisbane, November 2017.

Matthews, V., Bailie, J., Laycock, A. & Bailie, R. 'Stakeholder perspectives on system-level action required to improve Aboriginal and Torres Strait Islander primary care'. 6th Annual NHMRC Symposium on Research Translation, Brisbane, November 2017.

Larkins, S., Turner, N., Carlisle, K., Taylor, J., Copley, K. & Bailie, R. 'Quality improvement is everybody's business: Lessons from the best in community driving health improvement'. AMSANT CQI Collaborative, Alice Springs, November 2017.

Langham, E., Nattabi, B., Bailie, R., Matthews, V., McCalman, J., Bainbridge, R. & Kinchin, I. 'Social and emotional wellbeing screening for Aboriginal and Torres Strait Islanders within primary health care: A series of missed opportunities'. HSRAANZ 2017 (International), Gold Coast, November 2017.

Matthews, V., Bailie, J., Laycock, A. & Bailie, R. 'The vital few: Key barriers to wide-scale improvement in Aboriginal & Torres Strait Islander primary health care'. HSRAANZ 2017 (International), Gold Coast, November 2017.

Cunningham, F. 'Aboriginal and Torres Strait Islander Brief Intervention Training Program'. Queensland State-wide Rural and Remote Clinical Network, Brisbane, November 2017.

Cunningham, F., Murphy, M., Armstrong, D. & Nalatu, S. 'Development and delivery of integrated health promotion in the Queensland Health Brief Intervention Training Program'. First Asia Pacific Conference on Integrated Care (International), Brisbane, November 2017.

Laycock, A., Bailie, J., Matthews, V. & Bailie, R. 'Using developmental evaluation to strengthen the dissemination and use of quality improvement data from Aboriginal and Torres Strait Islander healthcare centres'. Australasian Evaluation Society (International), Canberra, September 2017.

Nattabi, B., Girgis, S., Matthews, V., Crawford, K., Bailie, R. & Ward, J. 'Organisational predictors associated with better syphilis testing in primary health care settings for Aboriginal populations: New evidence for managers and policy makers'. Aboriginal Health Council Western Australia – CQI Planning Workshop for TTANGO2 (Test, Treat and Go 2) STI Point-of-care Test Program, Perth, September 2017.

Cunningham, F. C., Murphy, M., Armstrong, D. & Nalatu, S. 'B.strong: Upskilling Queensland Aboriginal Health Workers in lifestyle brief interventions'. CheckUp Forum, Brisbane, September 2017.

Ramanathan, S. & Deeming, S. 'How to measure the impact of research-based interventions'. Measuring Health Outcomes Conference. Melbourne, August 2017.

Matthews, V., Bailie, J., Laycock, A. & Bailie, R. 'System-level action requires for wide-scale improvement in quality of primary health care'. PHCRIS Conference, Brisbane, August 2017.

Larkins, S., Carlisle, K., Turner, N., Taylor, J., Copley, K., Wright, R., Matthews, V., Elston, J., Thompson, S. & Bailie, R. 'The implementation gap: What is needed to ensure the effectiveness of quality improvement interventions in Indigenous primary health care?'. PHCRIS Conference, Brisbane, August 2017.

Ramanathan, S., Searles, A. & Edmunds, K. 'Impact assessment: A tool to encourage and measure research translation and research impact'. PHCRIS Conference, Brisbane, August 2017.

Bailie, R., Bailie, J., Matthews, V. & Laycock, A. 'Rheumatic heart disease findings from ESP Project'. Presentation the Rheumatic Heart Disease Network, Sydney, June 2017.

Bailie, R., Bailie, J. & Matthews, V. 'Fifteen years of wide scale action orientated research to support quality improvement in Aboriginal and Torres Strait Islander primary health care'. University Centre for Rural Health Research Seminar, Lismore, June 2017.

Cunningham, F., Murphy, M., Ward, G. & Fagan, R. 'Aboriginal and Torres Strait Islander Brief Intervention Training Program'. Queensland Health Partners in Prevention Forum, Townsville, June 2017.

Larkins, S., Carlisle, K., Turner, N., Taylor, J., Bailie, R., Connors, C., Copley, K., Wright, R., Elston, J., Thompson, S. & Matthews, V. 'Practical strategies for improving the quality of care at Indigenous primary care services for clinicians and managers: Lessons from the best'. Rural WONCA Conference (International), Cairns, May 2017.

Carlisle, K., Larkins, S., Turner, N., Taylor, J., Bailie, R., Thompson, S., Matthews, V. & Tsey, K. 'Quality improvement in Indigenous health services: Similarities and differences in enabling factors'. Rural WONCA conference (International), Cairns, May 2017.

Strobel, N., McAullay, D., McAuley, K., Bailie, R., Matthews, V., Jacoby, P., Gardner, K., Sibthorpe, B. & Edmond, K. 'Improving Indigenous child health service delivery through continuous quality improvement'. 7th International Meeting on Indigenous Child Health (International), Denver, USA, April 2017.

McPhail-Bell, K. "All teach, all learn" as a CQI research capacity building approach with Aboriginal and Torres Strait Islander primary health care services'. Sydney Medical School Early Career Researcher Showcase, University of Sydney, Sydney, April 2017.

Rumbold, A., Nattabi, B., Gibson-Helm, M., Matthews, V., Boyle, J., Larkins, S. & Bailie, R. 'Sexually transmitted infection and blood borne virus screening in pregnancy at Indigenous primary health centres'. 15th World Congress on Public Health (International), Melbourne, April 2017.

Matthews, V., Burgess, P., Connors, C., Moore, L., Peiris, D., Scrimgeour, D., Thompson, S., Larkins, S. & Bailie, R. 'What promotes delivery of CVRA for Indigenous adults?... An important primary prevention measure'. 15th World Congress on Public Health (International), Melbourne, April 2017.

Bailie, J., Laycock, A., Matthews, V. & Bailie, R. 'System-level action required for wide-scale improvement in quality of primary health care'. 15th World Congress on Public Health (International), Melbourne, April 2017.

Bailie, J., Matthews, V., Laycock, A., Schultz, R. & Bailie, R. 'Engaging stakeholders in prioritising and addressing evidence-practice gaps in preventive health care for Indigenous Australians'. 15th World Congress on Public Health (International), Melbourne, April 2017.

Percival, N., O'Donoghue, L., Laycock, A., Bailie, J. & Bailie, R. 'Improving implementation of Indigenous health promotion: Lessons from a place-based evaluation of the Indigenous Chronic Disease Package'. 15th World Congress on Public Health (International), Melbourne, April 2017.

Bailie, J., Laycock, A., Matthews, V. & Bailie, R. 'System-level action requires for wide-scale improvement in quality of primary health care'. CRE-IQI Research Capacity Strengthening Seminar, Lismore, March 2017.

2016

Nattabi, B., Matthews, V. & Bailie, R. 'Variation in sexual health care delivery at primary health care level in Australia: Findings from the Audit and Best Practice for Chronic Disease projects'. Australasian Sexual Health Conference, Adelaide, November 2016.

Nattabi, B. 'Wide variation in STI testing and counselling at Indigenous primary health care centres in Australia: Findings from the Audit and Best Practice for Chronic Disease projects'. Presentation to the School of Primary, Aboriginal and Rural Health Care, University of Western Australia, Perth, September 2016.

Larkins, S., Carlisle, K., Taylor, J., Woods, C., Turner, N., Copley, K., Elston, J., Matthews, V., Thompson, S., Connors, C., Tsey, K., Wright, R. & Bailie, R. 'Effective health systems for quality improvement at successful Indigenous primary health care services'. Are You Remotely Interested (Mount Isa) Conference, Mount Isa, July 2016.

Gibson-Helm, M., Bailie, J., Matthews, V., Laycock, A., Boyle, J. & Bailie, R. 'Engaging stakeholders in identifying priority evidence-practice gaps and strategies for improvement in pregnancy care'. International Health Conference, King's College London (International), London, UK, June 2016.

Laycock, A. 'Using developmental evaluation to support knowledge translation: Engaging PHC stakeholders in interpreting and using aggregated quality improvement data on a wide-scale'. Student presentation at Knowledge Utilisation Colloquium: KU16 (International), Llandudno, Wales, June 2016.

Nattabi, B., Matthews, V., Bailie, J. & Bailie, R. 'Factors associated with variation in sexual health care delivery at primary health care level in Australia'. SiREN Symposium, Perth, June 2016.

Cunningham, F., Matthews, V. & Bailie, R. 'Use of social network methods to assess collaboration in a National Research Partnership to improve the quality of Indigenous primary health care'. 3rd International Primary Health Care Reform Conference (International), Brisbane, March 2016.

Boyle, J., Gibson-Helm, M., Matthews, V., Bailie, J. & Bailie, R. 'Improving pregnancy care for Aboriginal and Torres Strait Islander women: The role of a national continuous quality improvement project'. Controversies in Obstetrics, Gynaecology and Infertility, Melbourne, March 2016.

2015

Bailie, R. 'Integrated chronic disease strategies for Indigenous populations: The ABCD Program: 5-year program results'. World Diabetes Congress (International; Invited Keynote), Vancouver, Canada, December 2015.

Bailie, R. 'Policy influences on CQI activity and quality of care from 2005 to 2014 in NT and QLD: Trends for chronic illness, prevention, child and maternal health – A discussion on major findings, trends in improvement and variability of outcomes'. NT Department of Health (Guest Lecture), Darwin, November 2015.

Bailie, R. 'Engagement of stakeholders in system-wide primary healthcare improvement'. Australian Disease Management Association 11th Annual Conference (Invited Keynote), Brisbane, September 2015.

Bailie, R. 'Chronic disease, the ABCD Program and the quality cycle in primary healthcare'. University of Queensland (Guest Lecture), Brisbane, September 2015.

Bailie, R., Matthews, V., Laycock, A., Bailie, J. & Sheahan, A. 'System-oriented engagement of stakeholders in identifying priority evidence-practice gaps, barriers, and strategies for primary healthcare improvement'. International Improvement Science and Research Symposium (International; Invited Keynote), London, UK, April 2015.

Gibson-Helm, M., Rumbold, A., Teede, H., Ranasinha, S., Bailie, R. & Boyle, J. 'A continuous quality improvement initiative: Improving the provision of pregnancy care for Aboriginal and Torres Strait Islander women'. RCOG World Congress 2015 (International), Brisbane, April 2015.

2014

Cunningham, F., Matthews, V., Sheahan, A. & Bailie, R. 'Use of social network methods to assess collaboration in a National Research Partnership to improve the quality of Indigenous primary health care'. Australian Consortium for Social and Political Research Incorporated Social Science Methodology Conference (International), Sydney, December 2014.

Cunningham, F. 'Research exchange – Clinical Networks workshop hosted by the Sax Institute'. NSW Agency for Clinical Innovation, Sydney, November 2014.

Bailie, R. 'A system-based learning partnership as a research translation mechanism'. NHMRC Research Translation Symposium, Melbourne, November 2014.

Matthews, V., Connors, C., Laycock, A., Sheahan, A., Bailie, J. & Bailie, R. 'Priority evidence–practice gaps and stakeholder views on barriers and strategies for improvement in Aboriginal and Torres Strait Islander chronic illness care'. NHMRC Research Translation Symposium, Melbourne, November 2014.

Gibson-Helm, M., Rumbold, A., Teede, H., Ranasinha, S., Bailie, R. & Boyle, J. 'Improving the provision of recommended pregnancy care for Aboriginal and Torres Strait Islander women'. NHMRC Translation Faculty Symposium, Melbourne, November 2014.

Percival, N. 'Tools for continuous improvement in health promotion'. Northern Territory CQI Collaborative, Darwin, November 2014.

Devine, C., Percival, N., Laycock, L. & Hobday, K. 'Making sense of systems for improving health promotion (Workshop)'. Northern Territory CQI Collaborative, Darwin, November 2014.

Posters

2017

Brimblecombe, J., Ritchie, J., van Den Boogaard, C., Coveney, J. & Bailie, R. 'Good food systems: Good food for all'. 6th Annual NHMRC Symposium on Research Translation, Brisbane, November 2017.

Cunningham, F., Murphy, M. & Nalatu, S. 'Development and delivery of the Aboriginal and Torres Strait Islander Brief Intervention Training Program'. 6th Annual NHMRC Symposium on Research Translation, Brisbane, November 2017.

Russell, M. 'Evaluation of the CRE-IQI as an innovation platform using social network methods'. University of Queensland Student Poster Session, Brisbane, October 2017.

2016

Searles, A., Ramanathan, S., Deeming, S., Reeves, P., Herd, S., Levi, C. & Nilsson, M. 'A framework to embed translational research behaviours into health and medical research'. 5th NHMRC Symposium on Research Translation, Melbourne, November 2016.

Strobel, N., McAuley, K., McAullay, D., Matthews, V., Bailie, R. & Edmunds, K. 'Improving health systems for Australian Aboriginal and Torres Strait Islander children'. 4th Global Symposium on Health Systems Research (International), Vancouver (Canada), November 2016.

Larkins, S., Taylor, J., Woods, C., Turner, N., Copley, K., Elston, J., Thompson, S., Matthews, V., Connors, C., Wright, R., Carlisle, K. & Bailie, R. 'Lessons from the best: Scaling up quality improvement through learning from successful Aboriginal and Torres Strait Islander primary health care services'. 4th Global Symposium Health Systems Research (International), Vancouver, November 2016.

Larkins, S., Taylor, J., Woods, C., Turner, N., Copley, K., Elston, J., Thompson, S., Matthews, V., Connors, C., Wright, R., Carlisle, K. & Bailie, R. 'Lessons from the best: Scaling up quality improvement through learning from successful Aboriginal and Torres Strait Islander primary health care services'. PHCRIS Conference, Canberra, June 2016.

Webster, F., Gidding, H., Matthews, V. & Menzies, R. 'Vaccination of Indigenous people: Characteristics of successful health services'. 15th Public Health Association of Australia National Immunisation Conference, Brisbane, June 2016.

De Witt, A., Cunningham, F., Bailie, R., Bernardes, C., Arley, B., Garvey, G., Walpole, E., Martin, J., Adams, J. & Valery, P. 'Identification of Indigenous cancer patients in primary health care services in Queensland'. Indigenous Health Conference (International), Toronto (Canada), May 2016.

2015

Nattabi, B., Kanai, S., Ferguson-Hill, S., Mosca, D., Murphy, M. & Bailie, R. 'Knowledge translation: Development of a sexual health clinical audit tool to enhance adherence to evidence-based guidelines'. 2015 World STI & HIV Congress (International), Brisbane, September 2015.

Gibson-Helm, M., Rumbold, A., Ranasinha, S., Teede, H., Bailie, R. & Boyle, J. 'A continuous quality improvement initiative: Improving evidence-based pregnancy care for Aboriginal and Torres Strait Islander women'. World Congress on Public Health (International), Kolkata (India), February 2015.

Appendix 6

Grants

Investigators	Project title	Period	Total funds	Funding body
2018				
Bailie, R., Bainbridge, R., Bailie, J., Walke, E., Carr, J., Monaghan, R. with Allen + Clarke	Co-designing an evaluation of the Indigenous Australians' Health Program	Sept 2017 – June 2018	\$430,000	Commonwealth Department of Health
Percival, N., Matthews, V., Burgess, P., Denny-Wilson, E., McCalman, J., Bailie, J., Boucher, P. & Saunders, C.	Assessing and guiding system improvement for delivery of preventive healthcare for Aboriginal and Torres Strait Islander Australians: Validating a data collection and measurement tool	2018	\$9,961.53	Health Futures Development Grant, Faculty of Health, University of Technology Sydney
2017				
Cunningham, F., Murphy, M., Thomas, D., Brimblecombe, J., Brands, J., Border, N., Maksimovic, L., Bennet, P., Hammond, M. & Jenkins, D.	B.strong: Queensland Health Aboriginal and Torres Strait Islander Brief Intervention Training Program	2016 – 2019	\$2,300,000	Queensland Health
Larkins, S., Bailie, R., Elston, J., Burgess, P., McBryde, E., Copley, K., Evans, R., Matthews, V. & Carlisle, K.	Quality improvement in Indigenous primary health care: Leveraging Effective Ambulatory Practices (LEAP)	2017 – 2020	\$1,129,210	NHMRC (Partnership Project)
Larkins, S., Taylor, J., Cadet-James, Y., Bailie, R., Farmer, J., Passey, M., Felton-Busch, C., Matthews, V., Callander, E. & Evans, E.	WOMen's action for Mums and Bubs (WOMB): A pragmatic trial of participatory women's groups to improve Indigenous maternal and child health	2017 – 2022	\$1,841,216	NHMRC (Project Grant)
Silver, B., H., Bailie, R., Matthews, V., McCarthy, L., Clarke, L., McCarthy, A., Highfold, R., Lechleitner, K., Murray, W., McKenzie, A., Sharpe, G. & Buckland, K.	Aremelle Arratye Mpwaretyeke – Doing it right: Research knowledge generation and translation in Central Australia	2017 – 2018	\$299,670	The Lowitja Institute
2016				
Anstey, N., Graham, S., Ralph, A., Toole, M., Mahendradhata, Y., Price, R., Poespoprodjo, J., William, T., Bailie, R. & Triasih, R.	Strengthening regional research collaboration in the prevention and containment of multidrug-resistant tuberculosis and malaria	2016 – 2018	\$2,000,000	Department of Foreign Affairs and Trade/ NHMRC
Bailie, R., Bailie, J. & Cass, A.	Opening doors: Evaluation of Maari Ma Health Aboriginal Corporation's chronic disease strategy	2016 – 2017	\$149,257	Maari Ma Health Aboriginal Corporation
2015				
Thomas, D., Percival, N. & Hefler, M.	Development of indicators and quality improvement tools for tobacco control programs in Indigenous communities	2015 – 2016	\$207,953	National Heart Foundation (NT Division)

Investigators	Project title	Period	Total funds	Funding body
Under assessment				
2018				
McCalman, J., Bainbridge, R., Bailie, R., Tsey, K., Cadet-James, Y., Ungar, M., Matthews, V., Askew, D., Percival, N. & Blignault, I.	System-level Integration to promote the mental health of Indigenous children: A community-driven mixed methods approach	2018 – 2022	—	NHMRC

Unsuccessful grant applications

To date there have been six unsuccessful applications to various funding bodies, including the NH&MRC, by CRE-IQI partners – three of which were led by Indigenous researchers. These applications represent a substantial amount of work by the applicants and are also an indication of the support provided through the CRE-IQI to encourage development of research and grant funding in priority areas of interest to our partners. We hope that if these applications are reworked and resubmitted they will be successful in the future.

Appendix 7

Research Capacity Strengthening Activities

Research capacity strengthening seminar series

2018

Strobel, N. Improvements in Aboriginal and Torres Strait Islander child health indicators through participation in continuous quality improvement and assessment of organisational health service structures, July 2018 (Attendees: 14)

Ramanathan, S. The impact of quality improvement research in Indigenous primary health care, July 2018 (Attendees: 12)

Laycock, A. Wide-scale continuous quality improvement: Stakeholders' use of quality of care reports, July 2018 (Attendees: 12)

McCalman, J. Seven steps for systematically reviewing literature, June 2018 (Attendees: 27)

Hardie-Boys, N. & Bailey, R. Designing a complex evaluation: Evaluation of the Australian Government's investment in Aboriginal and Torres Strait Islander primary health care, March 2018 (Attendees: 31)

Gibson-Helm, M. Development of a planning tool for health services related to pregnancy care quality, February 2018 (Attendees: 19)

2017

Cooke, J. Building capacity to maximise impact on health systems: Lessons learnt in 10 years of CLAHRCs in the UK, November 2017 (Attendees: 29)

Edmunds, K. The value of a cost-benefit analysis in empowering BackTrack staff to conduct program evaluation, October 2017 (Attendees: 13)

Bond, C. Rethinking capacity building in Indigenous health research, September 2017 (Attendees: 21)

Percival, N. The role of continuous quality improvement tools and processes in improving health promotion for Aboriginal and Torres Strait Islander communities, August 2017 (Attendees: 31)

Watkin Lui, F. Indigenous leadership and co-leadership in research – What does it mean for CQI research?, July 2017 (Attendees: 13)

McPhail-Bell, K. Journal club: Quality improvement in population health systems, June 2017 (Attendees: 8)

Walter, M. Indigenous statistics and Indigenous data sovereignty, April 2017 (Attendees: 29)

Bailie, J., Laycock, A. & Bailie, R. System-level action required for wide-scale improvement in quality of primary health care, March 2017 (Attendees: 16)

Matthews, V. What promotes delivery of cardiovascular risk assessment for Indigenous adults?... An important primary prevention measure, February 2017 (Attendees: 15)

2016

Lin, I. 'Stop the painin': Pathways for Aboriginal people with persistent musculoskeletal pain, November 2016

Strobel, N. Improving health systems for Australian Aboriginal and Torres Strait Islander children, November 2016 (Attendees: 18)

Larkins, S. & Carlisle, K. Overview of the implementation and initial findings from the CRE-IQI Case Studies project 'Lessons from the best to better the rest', September 2016 (Attendees: 19)

Gibson-Helm, M. Maternal Health ESP Project: Findings and next steps, August 2016 (Attendees: 12)

McCalman, J. & Langham, E. Social and emotional wellbeing indicators for youth health, July 2016 (Attendees: 14)

Cunningham, F. & Bailie, J. Clinical governance structures and processes: What works best in Aboriginal and Torres Strait Islander health care settings?, June 2016 (Attendees: 13)

Nattabi, B. Sexual health care at primary health care level: Room for more (quality) improvement?, May 2016 (Attendees: 12)

Percival, N. & Kanai, S. Indicators and their potential for improving tobacco control activities in Indigenous primary health care, April 2016 (Attendees: 14)

Carson-Stevens, A. System diagnostics for enhanced quality improvement, October 2015

CRE-IQI bi-annual meetings

2018

#8: 24–25 October, Brisbane (Attendees: TBC)

#7: 23–24 May, Alice Springs (Attendees: 33)

2017

#6: 29–30 November, Brisbane (Attendees: 36)

#5: 24–25 May, Brisbane (Attendees: 30)

2016

#4: 19–20 October, Darwin (Attendees: 30)

#3: 20–21 April 2016, Brisbane (Attendees: 24)

2015

#2: 21–22 October 2015, Cairns (Attendees: 33)

#1: 19–20 May 2015, Brisbane (Attendees: 30)

CRE-IQI Masterclass series

2018

Strangeways, A., Lovell, J. & Papatraianou, L. The arts in research: The intersections of research and the practical application of arts-based processes, May 2018 (Attendees: 33)

Hunt, J. & Trask, L. Workshop: National guide to a prevent health assessment for Aboriginal and Torres Strait Islander people, May 2018 (Attendees: 33)

2017

Peiris, D. & Oldenburg, B. Implementation science: What is it and how is it useful for Indigenous primary health care? May 2017 (Attendees: 28)

Tsey, K., Bainbridge, R., Searles, A., Cunningham, F. & Ramanathan, S. Applying tools to assess research impact, May 2017 (Attendees: 25)

Lynch, E. & Ramanathan, S. Actively planning for research translation: Maximising benefit for researchers and end users, November 2017 (Attendees: 26)

Turner, N. & Larkins, S. Two-way listening and learning in continuous quality improvement research, November 2017 (Attendees: 31)

2016

Cadet-James, Y. Research in an Aboriginal and/or Torres Strait Islander context, April 2016 (Attendees: 24)

Calder, R. Health policy and continuous quality improvement, April 2016 (Attendees: 24)

Laycock, A. & Matthews, V. Using continuous quality improvement data for wide-scale improvement in primary health care, October 2016 (Attendees: 20)

Bailie, R. Systems thinking for continuous quality improvement in primary health care, October 2016 (Attendees: 24)

2015

Tsey, K. & McCalman, J. Applying continuous quality improvement beyond primary health care: An introductory masterclass, October 2015 (Attendees: 27)

Harvey, G. Facilitating innovation and improvement in health care: An introductory masterclass, October 2015 (Attendees: 29)

Appendix 8

Scholarships, Fellowships and Awards

Investigator	Project title	Period	Total funds	Funding body
Passey, M.	Improving evidence-based prevention and management of chronic conditions for rural and Aboriginal communities	2019 – 2022	\$437,036	NHMRC Career Development Fellowship
Peiris, D.	TBC	2018 – 2022	—	NHMRC Career Development Fellowship
Peiris, D.	TBC	2018 – 2022	—	Heart Foundation Future Leader Fellowship
Laycock, A.	Supporting knowledge translation in Aboriginal and Torres Strait Islander primary health care: A developmental evaluation of a stakeholder engagement process to support use of evidence in systems and policy change	2018 – 2020	\$62,696.75	NHMRC PhD Grant
Sebastian, S.	Impact evaluation of the B.strong Training Program: A qualitative study	2017 – 2018	—	Australian Postgraduate Grant (for PhD)
Percival, N.	Improving linkages for chronic disease prevention in Indigenous communities: A quality improvement approach	2017 – 2020	\$318,768	NHMRC Early Career Fellowship
Matthews, V.	—	2017 – 2022	—	Wingara Mura Fellowship (University of Sydney)
McCalman, J.	Developing a Service Integration Toolkit to improve the quality of adolescent mental health promotion services in Cape York: A program of mixed methods research	2016 – 2019	\$314,000	NHMRC Early Career Fellowship
Gibson-Helm, M.	Improving pregnancy care for populations at risk in Australia	2016 – 2019	\$314,644	NHMRC Early Career Fellowship (Australian Public Health and Health Services Fellowship)
Nattabi, B.	Uptake of a sexual health clinical audit tool and its impact on sexual health service delivery in Aboriginal and Torres Strait Islander primary health care services	2014 – 2018	\$334,596	NHMRC Early Career Fellowship (Aboriginal and Torres Strait Islander Health Research Fellowship)

Unsuccessful fellowships applications

To date there have been two unsuccessful Fellowship applications to the NH&MRC by researchers affiliated with the CRE-IQI. These applications represent a substantial amount of work by the applicants and are also an indication of the support provided through the CRE-IQI to encourage development of fellowship applications in priority areas of interest to our partners.

Awards

2017

Percival, N. Faculty of Health Dean's Award for Academic Excellence – Rising Star (\$2,000). Awarded by University of Technology, Sydney, December 2017.

2015

Gibson-Helm, M. A continuous quality improvement initiative: Improving the provision of pregnancy care for Aboriginal and Torres Strait Islander women. 1st Prize – Public Health, Ageing and Health Services Research Poster Competition (\$250), Monash Health Research Week, Melbourne, March 2015.

Gibson-Helm, M. A continuous quality improvement initiative: Improving the provision of pregnancy care for Aboriginal and Torres Strait Islander women. 3rd Prize – Best Free Communication (\$250), World Congress on Obstetrics and Gynaecology, Brisbane, April 2015.

ABCD National Research Partnership. Recognising ethical practice in Indigenous health research for the ABCD National Research Partnership. Finalist, Lowitja Institute Tarrn Doon Nonin Award, Melbourne, 2015.

Appendix 9

Current PhD Students Affiliated with CRE-IQI

Name	Jodie Bailie
Title	<i>Supporting the formation, function and outcomes of a national research partnership through a developmental evaluation</i>
Date commenced	January 2018 (part-time)
Summary	Jodie's PhD aims to evaluate and enhance the establishment, functioning and outcomes of the CRE-IQI as an innovation platform through the application of a developmental evaluation. This doctoral thesis by publication is aligned to the CRE IQI Flagship project ' <i>Monitor and evaluate innovation platform impact</i> ' and the Cross-cutting Work Programs of ' <i>Research translation</i> ' and ' <i>Facilitating collaboration</i> '
Institution	School of Public Health, University of Sydney
Primary supervisor	Peiris, D.
Secondary supervisors	Cunningham, F., Passey, M., Bainbridge, R., Abimbola, S.
Name	Trisasi (Sasi) Lestari
Title	<i>Strengthening health systems to improve tuberculosis contact screening and management in Mimika, Indonesia</i>
Date commenced	August 2017 (full-time)
Summary	Sasi's doctoral thesis is a health system-strengthening project being conducted in Papua province, Indonesia, to improve tuberculosis (TB) control. TB is a leading public health problem in Indonesia, with a high death rate including in children. In Papua province, a baseline scoping activity demonstrated that there was no implementation of the national policy on screening and treatment of contacts of TB cases. This PhD aims to fill this knowledge–practice gap using implementation science methods. The policy will be implemented at five TB health care facilities, using a range of approaches to improve health care provider and patient knowledge and adherence to the guidelines. This PhD links to the CRE-IQI as it is applying CQI methods and approaches to tackling tuberculosis control in Papua province. Specifically, it links to three CRE-IQI research aims: ' <i>To facilitate the use of quality improvement data in clinical governance, management and practice</i> ', ' <i>To refine and build new processes and tools</i> ' and ' <i>To strengthen quality improvement capacity in the Indigenous health workforce</i> '.
Institution	Menzies School of Health Research, Charles Darwin University
Primary supervisor	Ralph, A.
Secondary supervisors	Bailie, R., Graham, S.
Name	Saji Sebastian
Title	<i>Evaluation of the impact of the Queensland Health Indigenous Brief Intervention Training (B.strong) Program</i>
Date commenced	March 2017 (full-time)
Summary	Saji's PhD aims to evaluate Queensland Health's B.strong Program, with particular focus on aspects relating to CQI at the PHC level. The evaluation is using qualitative methods to assess feedback from trainees, managers and policy makers on the uptake of training, and the implementation of B.strong in a purposively selected sample of PHC centres. Saji has been a recipient of a CRE-IQI PhD Scholarship. His doctoral work links to two CRE-IQI research aims: ' <i>To refine and build new clinical audit processes and tools</i> ', and ' <i>To improve data reporting systems at all levels of PHC</i> '. It also relates to the Cross-cutting Work Programs of ' <i>Research translation</i> ', and ' <i>Research capacity strengthening</i> '.
Institution	Menzies School of Health Research, Charles Darwin University
Primary supervisor	Cunningham, F.
Secondary supervisors	Thomas, D., Brimblecombe, J.

Name	Andrea Timothy
Title	<i>Khusela immunisation study: Strengthening clinic-level immunisation service delivery in Western Cape Province, South Africa</i>
Date commenced	April 2015 (full-time)
Summary	The aim of this project is to strengthen immunisation service delivery for children aged under 24 months at the clinic level in the Western Cape, South Africa by (1) assessing the functioning of immunisation systems at the clinic level to determine barriers and facilitators to service delivery, and (2) developing and implementing strategies to strengthen immunisation service delivery and vaccine uptake through careful ongoing monitoring and engagement with the key stakeholders. The key difference in this approach to previous approaches is the focus on the local service delivery context; and the engagement of both health care staff and community members, especially mothers. This PhD links to two CRE-IQI research aims: 'To refine and build new clinical audit processes and tools' and 'To facilitate the use of quality improvement data in clinical governance, management and practice'. It also relates to the Cross-cutting Work Programs of 'Research translation' and 'Research capacity strengthening'.
Institution	University of Melbourne
Primary supervisor	Danchin, M.
Secondary supervisors	Kelaher, M., Bailie, R.
Name	Fleur Webster
Title	<i>Immunisation coverage and correlates of high coverage in health services for Aboriginal and Torres Strait Islander people</i>
Date commenced	March 2015 (full-time)
Summary	Fleur's doctoral thesis examines vaccination coverage and the factors associated with high coverage among PHC services targeting Indigenous people. One of the research questions relates to the analysis and interpretation of CQI data collected from Indigenous PHC services participating in the ABCD National Research Partnership. Specifically, the thesis will determine if Importance Performance Matrix Analysis modelling statistical technique can identify clinic level factors associated with high vaccination coverage among PHC services targeting Indigenous people participating in the ABCD National Research Partnership. This PhD aligns with the CRE-IQI research aim: 'To facilitate the use of quality improvement data in clinical governance, management and practice'. It also links to the CRE-IQI Flagship project 'Ongoing ABCD Data Analysis and Reporting'.
Institution	School of Public Health and Community Medicine, University of New South Wales
Primary supervisor	Menzies, R., Gidding, H.
Secondary supervisors	Willaby, H., Taylor, R., Matthews, R.

Name	Alison Laycock
Title	<i>Supporting knowledge translation in Aboriginal and Torres Strait Islander primary health care: A developmental evaluation of a stakeholder engagement process to identify evidence practice gaps and strategies for improvement</i>
Date commenced	May 2014 (full-time)
Summary	Alison's PhD study is to implement a developmental evaluation of an interactive dissemination strategy using aggregated CQI data from the ABCD National Research Partnership – the ESP Project. This knowledge translation study indicates that participatory system-based research based on CQI data and processes can be applied effectively at scale and with diverse stakeholders to create synergy for health care improvement, thereby broadening the notion of facilitation. This doctoral thesis by publication is in the final stages and will be submitted for examination by the end of 2018. Alison has been a recipient of a CRE-IQI PhD Scholarship. Her PhD relates to the CRE-IQI's Flagship Project 'ESP Project' and four of the CRE-IQI research aims: 'To refine and build new clinical audit processes and tools'; 'To improve data reporting systems at all levels of PHC'; 'To facilitate the use of quality improvement data in clinical governance, management and practice'; and 'To strengthen quality improvement capacity in the Indigenous health workforce'. It is also linked to the Cross-cutting Work Program 'Research translation'.
Institution	Menzies School of Health Research, Charles Darwin University
Primary supervisor	Bailie, R.
Secondary supervisors	Cunningham, F., Harvey, G., Percival, N.

Name	Audra de Witt
Title	<i>Patterns of cancer care of Aboriginal and Torres Strait Islander cancer patients at the primary health care setting</i>
Date commenced	February 2014 (part-time)
Summary	Audra's doctoral work aims to improve the coordination and continuity of Indigenous cancer care in the PHC setting. Ten Queensland PHC centres and a hospital setting have participated in this study. This PhD links to two CRE-IQI research aims: 'To refine and build new clinical audit processes and tools' and 'To facilitate the use of quality improvement data in clinical governance, management and practice'. It also links to all three Cross-cutting Work Programs: 'Research translation', 'Research capacity strengthening' and 'Facilitating collaboration'.
Institution	Menzies School of Health Research, Charles Darwin University
Primary supervisor	Cunningham, F.
Secondary supervisors	Bailie, R., Matthews, V.

Name	Bec Gooley
Title	<i>The consumer's perspective of chronic condition care quality in the remote Aboriginal primary health care context</i>
Date commenced	TBC (part-time) – on hold
Summary	A requisite for asserting quality health care, consumer participation in health care involves the consumer as a decision maker and an evaluator of health care. Increased transparency and accountability, enabling service uptake and shaping and designing appropriate services are among the benefits of consumer participation in CQI. A starting point for participation is the formation of meaningful dialogue between providers and consumers that enables exchange of information for shared decision-making and care evaluation. Through a collaborative process, Bec has developed a suite of 'Consumer's Perspective of Quality of Care' tools. These tools have been trialled in a number of communities in the Northern Territory, further developed through funding made available by the Lowitja Institute and are now publicly available. However, the completion of the thesis has been put on hold. This PhD relates to three CRE-IQI research aims: 'To refine and build new clinical audit processes and tools'; 'To facilitate the use of quality improvement data in clinical governance, management and practice' and 'To improve data reporting systems at all levels of PHC'.
Institution	Menzies School of Health Research, Charles Darwin University
Primary supervisor	Bailie, R.

Appendix 10

Current and Completed Students

The following undergraduate and postgraduate students have been hosted by Menzies School of Health Research and worked on CRE-IQI related projects.

Completions (as at August 2018)

Name	Qualification	Institution
Stephanie Kuipers	Placement for Master in Public Health	VU University, the Netherlands
Lee Yeomans	Student Placement, BSc (Public Health)	The University of Queensland
Rebecca Harris	Student Placement, BSc (Public Health)	The University of Queensland
Kathryn Belford	Student Placement, BSc (Public Health)	The University of Queensland
Faith Hickey	Student Placement, BSc (Public Health)	The University of Queensland
Dr Bhakti Vasant	Public Health Registrar	Queensland Health
Mietta Russell	Student Placement, BSc (Public Health)	The University of Queensland
Mojan Fazelipour	Practicum Placement, Master in Public Health	University of Western Ontario (Schulich School), Canada
Evangeline Gardiner	Student Placement, BSc (Public Health)	The University of Queensland
Montana O'Hara	Student Placement, BSc (Public Health)	The University of Queensland

As part of postgraduate training, the following students had specific projects analysing ABCD data:

Jodie Bailie	Master of Culture, Health and Medicine	The Australian National University
Dr Veronica Matthews	Graduate Diploma in Biostatistics	The University of Queensland
Christopher Bailie	Honours Project as part of Medical Training	The University of Queensland
Bethany Crinall	Master of Public Health	Monash University

Current students

Name	Qualification	Institution
Dr Natalie Strobel	Master of Applied Epidemiology	The Australian National University
Dr Veronica Matthews	Master of Applied Epidemiology	The Australian National University

