Strengthening primary health care (PHC) is critical to Closing the Gap in health inequalities between Aboriginal and Torres Strait Islander people and other Australians. Having health centres implement continuous quality improvement (CQI) – a systematic way of using data to guide changes to how PHC is organised, structured or designed – is an excellent way of achieving this.

In line with this approach, the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership was established to bring together health centres, stakeholder organisations and research institutions to support and guide research on improving the quality of Aboriginal and Torres Strait Islander PHC. It aimed to achieve this through:

- exploring the factors that underlie variations in quality of care between health centres and regions
- identifying specific strategies that have been effective in improving PHC performance
- working with health centre staff, management and policy makers to enhance the effective implementation of successful strategies.

CQI data from the Partnership provide the most comprehensive picture to date of the quality of PHC that Aboriginal and Torres Strait Islander people receive around Australia. Our research gives a solid foundation for system-wide improvement of care quality across both government-managed and Aboriginal community controlled health organisations (ACCHOs).

Capacity for CQI at the health centre level has been strengthened in recent years. This reflects a growing management commitment, improved staff skills and enthusiasm, and greater accessibility and availability of CQI tools and resources. At the wider health system level, there is increasing support both in the policy environment and in infrastructure provision for a systems perspective to CQI.

About this project

Between 2010–2014, 175 PHC centres – including ACCHOs and government-managed health centres (see map overleaf) – provided the Partnership with de-identified clinical audit data derived from the use of CQI tools and processes. This has enabled a better understanding of the quality of care provided to Aboriginal and Torres Strait Islander people.

The Partnership has brought together almost 60 stakeholder organisations – ACCHOs, government-managed health centres, research institutions, government health departments, key regional support organisations such as Aboriginal community controlled peak bodies and Medicare Locals – from across jurisdictions and all levels of the health system to support and guide research on priority PHC systems issues.

The Partnership built on the successful ABCD program that led to the development of One21seventy (www.one21seventy.org.au), the National Centre for Quality Improvement in Indigenous Primary Health Care. This was established to provide tools and processes, including training, to support PHC providers to carry out CQI using clinical audits, systems assessment, web-based data analysis and reporting. The Partnership provided research and development support to One21seventy, and almost 80% of One21seventy health centres agreed to share their routine CQI data for research purposes.

The economic benefit of the ABCD program to improved diabetes care alone in 2012 was estimated to be $15m to the NT and $99m value to the rest of Australia. The economic benefits of the program overall are likely to be several times greater than this as a result of improved care for a range of other conditions.
Collaborations

Potential for direct contribution to improving service delivery and health outcomes for at least 1/3 of the total Aboriginal and Torres Strait Islander population of Australia.

More than 72,000 patient records audited by ABCD/One21seventy participating health centres with 56,000 (or 78%) made available for research.

The number of health centres using One21seventy audit tools and processes (2005–2014)

- Vascular and metabolic syndrome management: 218
- Preventive services: 182
- Child health: 179
- Maternal health: 134
- Rheumatic heart disease: 68
- Mental health: 29
- Systems assessment tool: 192

Knowledge exchange

Researchers presented interim findings to service providers and policy makers at bi-annual Partnership meetings to gather their insights into implications for policy and practice.

The project’s research is mostly published in open-access journals to encourage a wide readership.

Over the past 10 years ABCD-related research has generated:
- 1/4 of all peer-reviewed publications in Australia related to CQI or collaboratives in PHC
- 2/3 of all peer-reviewed publications specifically related to Aboriginal and Torres Strait Islander health CQI or collaboratives in PHC

Over the past five years ABCD-related research has generated:
- 83 conference presentations and posters
- 24 peer-reviewed publications
- 23 reports and evidence briefs

Collaborations

- 175 participating PHC centres provided data derived from use of CQI tools and processes for Partnership research
- Researchers from 8 institutions around Australia conducted independent rigorous analyses of CQI data and published results collaboratively
- Almost 60 different organisations were involved in bi-annual Partnership meetings, audit tool reviews, steering committees, research partnerships and projects
- Of the 24 peer-reviewed publications there were 15 different lead authors

WA hub
Geraldton
More than 1200 health centre staff participated in One21seventy training, with 45% of those attending in 2014 identifying as Aboriginal and/or Torres Strait Islander.

More than 1/3 of the project’s publications and presentations had a student or project officer as lead author.

13 students were supported from 7 organisations to work on related research projects (including 7 PhD and 3 Aboriginal and/or Torres Strait Islander students).

### Number of health centres registered for ABCD Partnership and/or One21seventy, by governance type, 2005–2014

<table>
<thead>
<tr>
<th></th>
<th>ABCD Partnership</th>
<th>Total One21seventy (inc. ABCD Partnership)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCHOs</td>
<td>38</td>
<td>98</td>
</tr>
<tr>
<td>Other health centres*</td>
<td>137</td>
<td>172</td>
</tr>
<tr>
<td><strong>Total health centres</strong></td>
<td><strong>175</strong></td>
<td><strong>270</strong></td>
</tr>
</tbody>
</table>

* These are predominantly government–managed health centres but also include other services such as 8 Medicare Locals/DGPs that are working with a number of health, criminal justice and youth services.
ABCD Partnership model for large-scale change

The Partnership can be described as a learning model for large-scale change (see figure). It shows how large-scale change can lead to improved Aboriginal and Torres Strait Islander population health outcomes through the interaction of comprehensive PHC, integrated CQI, system-based research networks, and system-based participatory action research. The model led to the widespread engagement of researchers, practitioners, managers and policy makers in scaling-up and spreading effective quality improvement programs. It provides mechanisms to strengthen the capacity of a health system to work towards continually improving its performance.¹

¹ Bailie, R., Matthews, V., Brands, J. & Schierhout, G. 2013, A systems-based partnership learning model for strengthening primary healthcare, Implement Sci, 8:143. Available at: www.implementationscience.com/content/8/1/143

Future directions

The ABCD National Research Partnership has been vital to our success in securing funding for a new Centre of Research Excellence for Integrated Quality Improvement based at the Menzies School of Health Research...

...which will bring together a wider range of service providers, policy makers and researchers in a strategic research program. The aim of the program is to increase the benefits of CQI work for Aboriginal and Torres Strait Islander people and the PHC centres on which they rely through providing rigorous policy- and practice-relevant evidence.

Our vision for further work in this area – formulated by delegates at our final Partnership meeting in late 2014 – is ensuring that CQI is:

• embedded in all elements of Aboriginal and Torres Strait Islander primary health care delivery
• led by Aboriginal and Torres Strait Islander organisations with strong consumer engagement
• championed by leaders in Aboriginal and Torres Strait Islander health
• supported by effective systems at local, regional and national levels
• proactive in responding to need with minimal variation in the quality of care between health centres and jurisdictions.

Acknowledgments

The support, enthusiasm and commitment of the many partners involved, especially the 175 participating PHC centres that have provided de-identified audit data, has been vital to the success of the ABCD National Research Partnership.

This project has been supported by funding from the National Health and Medical Research Council (#545267) and the Lowitja Institute, and by in-kind and financial support from a range of community controlled and government agencies. Lead researcher Professor Ross Bailie, from the Menzies School of Health Research, is supported by an Australian Research Council Future Fellowship (#FT100100087).

For more information

w www.menzies.edu.au/abcd w www.one21seventy.org.au
e abcd@menzies.edu.au e one21seventy@menzies.edu.au
t +61 7 3169 4201 t 1800 082 474

Prepared by: Jodie Bailie, Jane Yule, Gill Schierhout, Alison Laycock and Ross Bailie based on extensive input from ABCD partner organisations and other individuals

Date: May 2015
Ensuring that Aboriginal and Torres Strait Islander people have access to high-quality health care through strong primary health care (PHC) systems is vital if we are to improve health outcomes and ‘Close the Gap’. This summary reports key findings and actionable messages from research undertaken by the Audit and Best Practice for Chronic Disease (ABCD) National Research Partnership, 2010–2014.

The Partnership brought together health services, research institutions and other relevant organisations to support and guide research on improving the quality of PHC for Aboriginal and Torres Strait Islander people. The ABCD/One21seventy* continuous quality improvement (CQI) projects have been operating in Aboriginal and Torres Strait Islander PHC for more than a decade, and provide a unique resource for understanding variation in quality of care and what is needed to improve service delivery.

Data collected by health centres for their local CQI processes between 2005 and 2014 have enabled Partnership researchers to put together the most comprehensive picture to date of the quality of PHC that Aboriginal and Torres Strait Islander people receive around Australia. Research from Partnership publications have been distilled into the following six key findings.

**Key research findings**

1. There has been a general trend of improvement in the overall quality of care among health centres participating in ABCD/One21seventy CQI projects over the past 5–10 years.

2. There continues to be wide variation between health centres and between jurisdictions in the quality of care delivered to Aboriginal and Torres Strait Islander people.

3. Analysis of aggregate CQI clinical audit data has identified aspects of care that are delivered relatively well and aspects where there are consistent evidence–practice gaps across the system.

4. Regional support for CQI efforts, including building organisational and clinic team capacity in health centres, can have an important influence on the quality of care provided.

**Development of new evidence-based tools**

5. In response to expressed service needs, the Partnership supported the development of new CQI tools and processes for monitoring and improving key functions of primary health care where good quality CQI measurement tools were not available or where standards were not yet well articulated.

**A Partnership learning model for large-scale change**

6. Work carried out through the Partnership has underpinned the development of a Partnership learning model to achieve large-scale improvement in quality of care and population health outcomes.

---

* One21seventy (www.one21seventy.org.au), the National Centre for Quality Improvement in Indigenous Primary Health Care is a not-for-profit agency established to support health services to implement CQI processes.
Our Partnership findings also provide a solid foundation for system-wide improvement of care quality across both government-operated and community controlled health centres. We encourage people working at all levels of the system to consider how they can support CQI implementation and other strategies for improving service planning and delivery.

Key messages for action that flow from the Partnership published literature are listed below.

**CQI implementation and support**

- Encourage collaborations between health services, policy and research organisations in system-oriented CQI processes
- Ensure commitment to CQI by senior management and leadership for quality improvement to support sustained engagement in CQI processes
- Allocate sufficient resources to enable staff to participate in CQI
- Develop and sustain regional-level collaborations to support CQI in health centres, including building organisational and clinic team capacity in health centres
- Provide resources for CQI support (e.g. CQI facilitators)
- Ensure stakeholders are engaged in the development of CQI tools so that priorities of both frontline services and those at other levels of the system are addressed
- Establish consistent national standards for defining appropriate care (e.g. antenatal care)

**Service planning and delivery**

- Strengthen direct financial and workforce support to health centres to ensure there is the capacity to address the high burden of disease and service load
- Encourage regular patient attendance, e.g. through patient reminder systems
- Strengthen efforts to deliver care that is consistent with guideline-scheduled services
- Support a culture of ethical sharing and documentation of clinical information and the coordination of care by all relevant practitioners, including visiting clinicians
- Provide ongoing, culturally appropriate training for primary health care workers in screening, assessment, treatment and referral (including mental health and wellbeing)
- Identify and address barriers to implementing brief interventions related to smoking, nutrition and other priority risks to health
- Improve follow-up of abnormal clinical findings and laboratory results identified in preventive health assessments
- Ensure that data items in patient record information software align with current clinical guidelines
- Provide ongoing, culturally appropriate training for PHC workers in the use of CQI methods to improve care across the care continuum
Key research findings – with reference to Partnership publications

There has been a general trend of improvement in the overall quality of care among health centres participating in ABCD/One21seventy CQI projects over the past 5–10 years

- Across a range of audit tools and types of care, the aggregated CQI data from participating health centres show progressive improvement over consecutive CQI cycles.² ³
- Health centres with more than three years of participation in CQI cycles were more likely to have higher delivery of overall diabetes care, as assessed against best practice standards, than health centres participating for a year or less.⁴
- Pregnant women attending health centres after one or more CQI cycles had been conducted were more likely to receive screening for body mass index (BMI), blood pressure and diabetes and to receive care related to lifestyle risk factors.⁶
- Some types of clinical care showed more improvement than others – for example, with type 2 diabetes care, those services primarily dependent on the local health centre team showed more improvement than services relying on foot and eye checks delivered by visiting or specialist staff – which indicates a need for specific efforts to enhance systems for specialist outreach as well as for local health centre systems.⁷

There continues to be wide variation between health centres and between jurisdictions in the quality of care delivered to Aboriginal and Torres Strait Islander people

Our work has provided insight into the quality of care and its variation within and between primary health care services and jurisdictions (i.e. between States/Territories). This variation is evident across a number of areas of care including preventive, chronic illness, maternal, mental health and wellbeing, and rheumatic heart disease. We provide examples of this variation below.

Preventive
- Levels of delivery of guideline-scheduled preventive services varied between health centres with a range of 5% to 74% (average 34%).⁸
- The delivery of cardiovascular risk assessments for patients with type 2 diabetes varied between jurisdictions from 5% to 46% (average 22%).⁹

Chronic illness
- Wide variation was observed across different aspects of type 2 diabetes care and between health centres. Overall adherence to the delivery of diabetes services ranged from 22% to 83% (average 57%), and the recorded medication adjustment for patients with a record of high blood sugar ranged from 0% to 72% (average 26%).¹⁰
- The overall prevalence of documented depression among people with diabetes was 8.8%, with a range between health centres of 0% to 37%.¹¹ Screening for depression among people with type 2 diabetes showed wide variation between both health centres (0% to 52%) and jurisdictions (0% to 67%).¹²

Maternal health
- The proportion of women presenting for their first antenatal visit in the first trimester of their pregnancy ranged from 34% to 49% between jurisdictions.¹³
- The proportion of women who had folate prescribed before 20 weeks varied between jurisdictions from 3% to 49%.¹⁴

Mental health and wellbeing care
- Antenatal screening rates for social and emotional wellbeing differed between jurisdictions, ranging from 5% to 38% (average 17%),¹⁵ and between urban, regional and remote locations. Health centres in regional locations were nearly four times as likely to use a standard screening tool than those in urban or remote locations.¹⁶

Rheumatic heart disease
- There was wide variation between health centres for many key performance indicators: e.g., the proportion of rheumatic heart disease patients who received ≥80% of benzathine penicillin G (BPG) antibiotic injections for their treatment ranged between 10% and 70%; and the proportion with documentation of risk classification ranged from 25% to 100%.¹⁷
Analysis of aggregate CQI clinical audit data has identified aspects of care that are delivered relatively well and aspects where there are consistent evidence–practice gaps across the system.

Many aspects of care are being delivered relatively well by many health centres. For example, the majority of patients with type 2 diabetes who had a record of high blood sugar have a documented plan for follow-up. Similarly, most patients with a diagnosis of mental illness had a record of a mental health assessment within the past two years, and in preventive care there was relatively good recording and delivery of adult immunisations and measurement of weight. However, there was wide variation between health centres in almost all aspects of care.

To date we have received input from stakeholders on barriers, enablers and strategies for addressing the priority evidence–practice gaps in child health and chronic illness care.

Commonly identified barriers to improvement include:
- workforce recruitment and retention
- the training and development of health staff
- the development and effective use of clinical information systems.

Reported enablers tend to be the converse of identified barriers.

Commonly identified strategies for improvement include:
- commitment to a CQI culture by senior management
- leadership for CQI across all levels of the PHC system
- access to CQI support (e.g. CQI facilitators)
- training for staff to build skills and confidence in best practice care in areas of identified weakness
- strengthening the role of, and support for, Aboriginal and Torres Strait Islander Health Workers.

Regional support for CQI efforts, including building organisational and clinic team capacity in health centres, can have an important influence on the quality of care provided.

In explaining patterns of improvement over several years of CQI implementation, implementers identified the importance of regional level CQI collaboration and support structures between services. These support structures were, in some cases, able to mitigate the negative effects of high staff turnover particularly in management positions.

Where higher level system support for health centres has been implemented, improvements have been apparent. For example, those government health centres in the Northern Territory with systematic reporting processes and support to conduct absolute cardiovascular risk assessments were seven times more likely to have recorded cardiovascular risk assessments for their eligible clients than centres without access to these supports.

Higher ratings by staff of health centre organisational systems were associated with higher levels of screening of pregnant women for diabetes, alcohol use, brief interventions or counselling regarding alcohol, cigarettes and nutrition and of early pregnancy folate prescription.

Higher ratings by staff of the functioning of health centre information systems and decision support, and of organisational influence and integration, were associated with greater adherence to best practice guidelines across various aspects of care.
In response to expressed service needs, the Partnership supported the development of new CQI tools and processes for monitoring and improving key functions of primary health care where good quality CQI measurement tools were not available or where standards were not well articulated.

Health promotion – Primary health care providers often struggle to implement and evaluate health promotion in their communities. Working with four Northern Territory PHC centres we developed an innovative evidence-based health promotion CQI tool. This research also highlighted the critical importance of facilitated participatory processes to collect relevant information and build skills in this area.

Youth health – The health needs of young people are often inadequately met by health centres and there are no well-articulated standards of care. Research conducted through the Partnership, using an iterative process of stakeholder and expert engagement and guideline review, resulted in a tool to monitor and improve PHC services for Aboriginal and Torres Strait Islander youth.

Sexual health – In response to a widely recognised need for, and challenges in the provision of, high-quality sexual health care the Partnership developed an audit and systems assessment tool that was piloted in four States and Territories. The tool’s development was supported by a reference group of experts with a range of relevant experience, knowledge and skills.

Client perceptions of quality of care – To address a gap in the availability of appropriate techniques and tools that can accurately and safely collect data on Aboriginal and Torres Strait Islander community members’ perspectives of quality of chronic illness care, we trialled a community perceptions tool in a number of NT locations.

An additional three audit tools and processes are in various stages of development:
- a systems assessment tool for managers
- an audit tool for child developmental monitoring
- an eye health audit tool.

Work carried out through the Partnership has underpinned the development of a Partnership Learning Model to achieve large-scale improvement in quality of care and population health outcomes.

The Partnership can be described as a learning model for large-scale change, as can be seen in the accompanying diagram. It shows how improved population health outcomes can be achieved through synergies between comprehensive PHC, integrated CQI, system-based research networks, and system-based participatory action research.

The model addresses identified challenges in achieving scale-up and the spread of effective quality improvement programs that will lead to the wide-scale engagement of researchers, practitioners, managers and policy makers. It provides mechanisms to strengthen the capacity of a health system to work towards continually improving its performance.
References


5. Gibson-Helm, M., Teede, H., Rumbold, A., et al., Continuous quality improvement and routine metabolic screening in pregnancy by primary health centres in Aboriginal and Torres Strait Islander communities. Under review.


7. Schierhout, G., Matthews, V., Connors, C., et al., Improvement in delivery of Type 2 diabetes services differs by mode of care: A retrospective longitudinal analysis in the Aboriginal and Torres Strait Islander Primary Health Care setting. Under review.


Acknowledgments

The support, enthusiasm and commitment of the many partners involved, especially the 175 participating PHC centres that have provided de-identified audit data, has been vital to the success of the ABCD National Research Partnership.

This project has been supported by funding from the National Health and Medical Research Council (#545267) and by the Lowitja Institute, and by in-kind and financial support from a range of community controlled and government agencies. Lead researcher Professor Ross Bailie, from the Menzies School of Health Research, is supported by an Australian Research Council Future Fellowship (#FT100100087).

For more information

ABCD National Research Partnership
e abcd@menzies.edu.au
t +61 7 3169 4201
w www.menzies.edu.au/abcd

Prepared by: Jodie Bailie, Gill Schierhout, Frances Cunningham, Jane Yule, Alison Laycock and Ross Bailie

Date: May 2015