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Primary Health Care for Aboriginal and Torres Strait Islander Children

ESP Project: Priority Evidence-Practice Gaps and Stakeholder Views on Barriers and Strategies for Improvement

ABCD NATIONAL RESEARCH PARTNERSHIP

Improving practice through research

One21seventy
National Centre for Quality Improvement in Indigenous Primary Health Care

Guide to reading this report

This final report presents the findings from each of the phases of the Engaging Stakeholders in Identifying Priority Evidence-Practice Gaps and Strategies for Improvement in Primary Health Care (ESP) Project.

The report comprises four sections:

1. Key messages
2. Executive summary
3. Main report
4. Appendices

This report is designed for people working in a range of roles including national and jurisdictional policy makers, managers, community-controlled organisations and government health authorities, peak bodies, clinical leaders, researchers, primary health care staff and continuous quality improvement (CQI) practitioners who may have an interest in the interpretation and use of aggregated CQI data to drive decision making.

The report is presented along the lines of the 1:3:25 format:

- The '1' is a one-page statement of key messages – that is, the headline messages that should be of interest to policy makers and senior managers.
- The '3' is an executive summary that provides a brief background and description of the approach, findings and conclusions of the ESP child health project. This executive summary is designed for people who want to know a little more about the project, beyond the key messages.
- The '25' provides a more complete description of the project, suited to the needs of those with a more specific and detailed interest in the project.

The appendices contain still further detail on specific aspects of the project.

The report is accompanied by a 'Data Supplement' that contains the detailed analysis of the findings that were presented in the first two phases of the project, and which were the basis of the higher level findings presented in this final report. The Data Supplement is available by clicking here or emailing abcd@menzies.edu

The findings in this final report are presented for all participating health centres from all jurisdictions together. In the first two phases of the project stakeholders were provided with their jurisdictional data alongside national data to enable comparisons in trends in care delivery and regional and national contexts.

More detailed reports on each phase of the ESP Project are available on request.

Authors of this report

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RB provided overall leadership of ABCD NRP (including the ESP Project), and had a major role in project design, data analysis and interpretation, and drafting and reviewing of ESP reports. VM played a lead role in the development of the ESP Project process, and in management, analysis and presentation of the ABCD NRP and ESP data, and writing of this report. JB played a lead role in the ESP Project design management, report preparation and assisted with writing this report. AL contributed to development of the ESP Project process, data interpretation and report writing.

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Abbreviations

ABCD	Audit and Best Practice for Chronic Disease
ATOD	Alcohol, tobacco and other drugs
AHW	Aboriginal and Torres Strait Islander Health Worker/Health Practitioner
BCG	Bacillus Calmette-Guérin vaccine
CQI	Continuous Quality Improvement
DTPa	Diphtheria-tetanus-acellular pertussis vaccine
EPGs	Evidence Practice Gaps
ESP	Engaging Stakeholders in Identifying Priority Evidence-Practice Gaps and Strategies for Improvement in Primary Health Care (ESP Project)
GP	General Practitioner
Hep B	Hepatitis B
HPV	Human Papillomavirus
IPV	Polio Vaccine
IT	Information Technology
MMR	Measles, Mumps, Rubella
NSW	New South Wales
NT	Northern Territory
PHC	Primary Health Care
QLD	Queensland
SA	South Australia
SIDS	Sudden Infant Death Syndrome
VIC	Victoria
VZV	Varicella Vaccine (Chickenpox)
WA	Western Australia

1. Key Messages

Stakeholders across services and systems that deliver Aboriginal and Torres Strait Islander primary health care (PHC) engaged in a process to analyse and interpret national continuous quality improvement (CQI) data from 132 health centres.

We used a consensus process to identify priority evidence-practice gaps in child health care, based on these data.

Stakeholders drew on their knowledge and experience working in Aboriginal and Torres Strait Islander PHC to identify barriers and enablers to addressing the priority evidence-practice gaps, and to suggest strategies to overcome barriers and strengthen enablers to addressing the priority evidence-practice gaps.

Important messages emerge from these findings.

Key message 1

Five priority evidence-practice gaps in child health care are common across systems and health centres that serve Aboriginal and Torres Strait Islander people. They call for system-wide and local attention (not in ranked order):

- Recording of all immunisations in child health records, and the delivery of immunisations scheduled for delivery at birth and at 2 years and older;
- Monitoring and recording of key measures, including weight, haemoglobin and developmental milestones and follow-up action for growth faltering, anaemia, chronic ear infections, developmental delay, and risks related to domestic environment, financial situation, housing and food security;
- Recording of advice or brief interventions on child nutrition, passive smoking, infection prevention and hygiene, injury prevention, domestic/social and environmental conditions, and child development;
- Recording of enquiries made regarding use of alcohol, tobacco and other drugs and discussion and/or advice provided on risks to health of children; and
- Systems for effective links between health centres and communities and systems to support regional health planning.

Key message 2

Stakeholders across health centres and systems that deliver Aboriginal and Torres Strait Islander PHC identified the most important barriers and enablers to addressing the priority evidence-practice gaps as:

- workforce recruitment and retention
- staff training and development to support provision of best practice care
- development of clinical information systems
- community engagement and health literacy

Current knowledge highlights the importance of targeting specific barriers and enablers to improvement, and engaging a range of stakeholders in developing interventions. Health centres and services can draw on the knowledge and experience of a range of PHC stakeholders when developing interventions to overcome these barriers and to strengthen enablers of good quality care.

Key message 3

Strategies and actions to overcome barriers and strengthen enablers to addressing the priority evidence-practice gaps come from the collective knowledge and practical experience of stakeholders in Aboriginal and Torres Strait Islander PHC. The strategies are likely to be relevant across health services and systems. They reflect common themes: development and use of clinical information systems; community engagement; staff training and expert support; infrastructure to support interagency linkage; and use of continuous quality improvement data.

- Aim for less siloed service delivery and better interagency coordination through linking of clinical information systems between providers, and opportunities for staff across agencies to share relevant knowledge about clients.
- Invest in staff training in areas relevant to the evidence practice gaps to build skills and confidence in provision of best practice care (including community engagement and provision of interventions for children identified at risk). This may require flexibility in training options such as inter-agency rotations and trans-disciplinary work practices.
- Continue to improve and make better use of clinical information systems including the sharing of electronic records across providers to facilitate follow-up, completeness of children's records and efficiency of care.
- Work with communities to build understanding of child health issues. Involvement of AHWs is key. Identify local child health champions to assist with education and the provision of practical support for families to develop strategies to reduce risks to child health.
- Continue to use CQI processes and data to identify and address gaps in best practice care and identify the staff skill mix needed in communities.

Key message 4

The aggregated data and collated views and ideas presented in this report can be used to encourage an evidence-informed dialogue on achieving improvement in priority areas.

Collaborate across regions and jurisdictions to enhance knowledge, experience and resources as strategies relevant to local contexts are developed or adapted, implemented and evaluated.

2. Executive Summary

2.1. Purpose

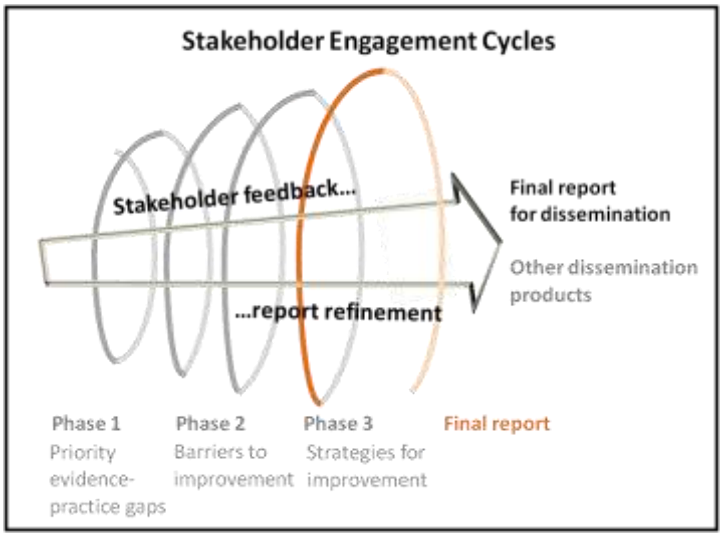
The purpose of the Engaging Stakeholders in Identifying Priority Evidence-Practice Gaps and Strategies for Improvement in Primary Health Care (ESP) project is to engage key stakeholders in the use of aggregate continuous quality improvement (CQI) data to identify and address system-wide evidence-practice gaps in Aboriginal and Torres Strait Islander child health care. We aimed to engage a range of stakeholders across different levels of the primary health care (PHC) system, including service providers, management, policy-makers and researchers and capture their knowledge on the barriers and enablers to addressing the identified priority-evidence practice gaps and their suggestions on strategies for improvement.

Our research has highlighted the wide variation in performance between different aspects of care and between health centres. While many aspects of care are being done well in many health centres, there are important gaps between evidence and practice in some aspects of PHC. System-wide gaps are likely to be due to deficiencies in the broader (PHC) system, indicating that system-level action is required to improve performance. Such system-level action should be developed with a deep understanding of the holistic nature of Aboriginal and Torres Strait Islander wellbeing beyond just physical health (including healthy connections to culture, community and country), of the impact of Australian colonist history on Aboriginal and Torres Strait Islander people, and of how social systems – including the health system - should be shaped to meet the needs of Aboriginal and Torres Strait Islander people.

This project aims to build on the collective strengths within PHC services in order to continue improving the quality of care for Aboriginal and Torres Strait Islander communities.

2.2. Approach

Figure 1. ESP project phases



More than 10,000 clinical records of children were audited using One21seventy best practice CQI tools between 2007 and 2013 in 132 PHC centres in five States/Territories participating in the ABCD National Research Partnership. This national de-identified child health audit dataset and the desire to maximise potential benefit in service delivery and in health outcomes formed the basis of the ESP project. Through three cyclical phases of report and feedback, the ESP Project aimed to engage stakeholders in a theory- based process using aggregate CQI data to identify: 1) priority evidence -practice gaps; 2) barriers and enablers to high quality care; and 3) system-wide strategies for achieving improvement. The rationale for the ESP Project is that involving stakeholders in this phased approach should stimulate discussion and enhance ownership of the development of interventions to address system gaps.

Implementation research suggests that strategies to address gaps in care are more likely to be effective if they are designed to specifically address identified barriers and

enablers to improvement[1,2]. Development of strategies should therefore be based on best available evidence on barriers and enablers, including local knowledge, formal research evidence and theory.

This final report presents results across all phases of the ESP process.

2.3. Summary of Findings

CQI data from 94 health centres (4,011 records of children) who conducted child health audits between 2012 and 2013 were used to identify a preliminary set of priority evidence-practice gaps. Approximately 40 stakeholders provided input on refining the preliminary set and to produce the set of six priority-evidence practice gaps in chronic illness care presented in Table 1.

Table 1. Priority evidence-practice gaps in child health care as identified by stakeholders

1. Recording of immunisations in child health records
Strengthen attention to: • immunisation chart recordings in clinical records of children; and • delivery and recording of immunisations scheduled at birth and at 2 years and older
2. Monitoring and recording of key measures and follow-up of abnormal findings
In particular, strengthen systems for: • recording of weight, haemoglobin and developmental milestones; and • recording and follow-up action for children with growth faltering, anaemia, chronic ear infections, developmental delay and risks related to domestic environment, financial situation, housing and food security.
3. Recording and delivery of advice and brief interventions on common risks to health
In particular, strengthen systems for recording of advice on child nutrition, child development, passive smoking risk, infection prevention and hygiene, injury prevention, domestic/social and environmental conditions.
4. Recording of enquiry on use of tobacco, alcohol and other drugs
Strengthen efforts to: • improve enquiry - and recording of enquiry - regarding use of cigarettes, alcohol and illicit drugs; and • improve documentation of discussion and/or advice provided on these risks to children.
5. Health centre systems to support high quality care
In particular, strengthen systems for more effective links between health centres and communities, and systems to support regional health planning.

In the second phase, we presented trend audit data (2007-2013: 10,405 records of children from 132 health centres) to examine variation over time in key indicators relevant to the priority evidence-practice gaps. Health centre and system and staff attributes relevant to implementation of change interventions[2,4,5], were provided as prompts for the identification of barriers and enablers. Approximately 50 respondents rated the relevant importance of these domains to each of the priority-evidence practice gaps. Table 2 lists the health centre, system and staff attributes considered to be the main barriers and enablers across all priority areas.

Table 2. Key barriers and enablers to improving child health care across all priority areas.

Health Centre And Systems	**Staffing/workforce support, recruitment and retention** Systems to: • ensure PHC staff have support from experienced staff, especially when health centres are affected by turnover of staff and staff shortages; • recruit, retain and support AHWs, nurses, and doctors. **Shortages of particular types of staff** Most importantly, systems to recruit adequate numbers of AHWs. **Clinical information systems** Systems to facilitate training and support for staff to effectively use clinical information systems and communication technology for supporting and providing best practice care. **Training and development** Systems to facilitate inter-organisational and intra-organisation learning. **Community capacity, engagement and mobilisation** Systems to: • enhance the health literacy of community members; and • strengthen community leadership for quality improvement.
Staff	**Skills** Capability of staff to work effectively in teams; Staff ability to apply the principles of population health; Staff ability to apply the principles of patient-centred care and self-management; Capability of health teams to use CQI tools and processes; Ability of practitioners to use of best-practice guidelines and decision support resources. **Social/professional role and identity** The quality of training and development systems to build staff knowledge and skills in provision of best practice care.

In the third phase, we presented a brief synthesis of published evidence on improving the quality of Aboriginal and Torres Strait Islander PHC to stimulate feedback on strategies to overcome the identified barriers and enablers. Approximately 20 respondents provided input on new or refined strategies to address the most common barriers and enablers across all priority evidence-practice gaps. These key points from stakeholder feedback on strategies are summarised under four themes:

a. Improve interagency linkages to facilitate staff developmental opportunities and sharing of knowledge about health needs of clients

Aim for less siloed service delivery and better interagency coordination through linking of clinical information systems between providers, and opportunities for staff across agencies to share relevant knowledge about clients. Interagency staff placements and training can be used to share resources and skills at the local level.

Explore new funding models to extend multipurpose health care services. Central care agencies (such as primary health care centres or general practice providers) should streamline family intake and improve continuity of care for children and families. They should provide coordination points for all service provision, including links to hospitals and child protection services.

Continue to improve and make better use of information systems and communication technology. Keep software up to date to align systems with best practice. Focus on data entry and follow-up mechanisms for immunisation and other reminders; encourage visiting medical staff to use health centres' clinical information systems. Sharing

electronic records across providers should facilitate follow-up, completeness of children's records and efficiency of care.

b. Staff training and support

Invest in staff training on: immunisation; accurate data entry on immunisation records; use of clinical information systems; community engagement; brief interventions; and referral. Staff need skills and confidence to engage with families and children to talk about use of alcohol, tobacco and other drugs (ATOD) in safe and effective ways, and to document discussions. Developing staff capability in interventions for children identified at risk is likely to pay off by reducing reliance on specialised allied health staff. Bringing together AHWs and nurses for skills training should encourage trans-disciplinary practice and improve knowledge of respective roles in child health.

Primary health care staff need up-to-date knowledge of best practice guidelines for child health and access to qualified specialist staff for on-site and phone/internet support. Provide smoking cessation support for staff, and support to deliver programs within schools and other community settings; these strategies should help staff provide families with effective ATOD interventions, especially when complemented with appropriate media campaigns.

c. Community engagement and building health literacy

Developing child health champions and empowering local staff to use community networks and mobile immunisation units could improve immunisation rates. When implementing preventive and public health interventions, the involvement of AHWs is key. Include practical support for families to develop strategies to reduce risks to child health, and community education about the importance of discussing ATOD issues with children from an early age. Use culturally appropriate media and communications technology to support the provision of health advice.

d. Continuous quality improvement and use of data

Use CQI processes and data to address gaps in best practice care and identify the staff skill mix needed in communities. Managers and clinical staff should collaborate to find solutions to address identified areas of service need. Use data to advocate to funding bodies about community needs at local, regional and national levels.

Many of the suggested strategies are relevant to a number of the identified barriers and enablers, rather than being specific to particular barriers or enablers. In developing strategies for overcoming the barriers it will be important to ensure the more general strategies do include a focus on overcoming the specific identified barriers and strengthening specific enablers, rather than being too diffuse.

2.4. Next steps

System-wide change is required to address the priority evidence-practice gaps in primary health care for Aboriginal and Torres Strait Islander children through targeted strategies. The ESP process has enabled key people working within the Aboriginal and Torres Strait Islander health sector to reflect on aggregate data reports and collated their views on priority evidence-practice gaps, barriers and enablers, and strategies for improvement. Further work is required to ensure the detailed design of strategies is based on published evidence and local expert knowledge of approaches that support effective interventions for improving the quality of care for Aboriginal and Torres Strait Islander children.

The main purpose of the ESP Project was to engage a variety of stakeholders in the use of aggregate CQI data and to stimulate wide discussion on the key areas requiring improvement and how best to achieve that improvement. The suggested strategies could provide the basis for continuing dialogue to address the most common barriers across the agreed priority evidence-practice gaps in child health care. Through such dialogue, policy makers, managers, community-controlled organisations and government health authorities, peak bodies, clinical leaders, researchers, PHC staff and CQI practitioners can

ensure that the detailed design of strategies addresses local contextual and organisational considerations.

The aggregated data and collated views and ideas provide a basis for stakeholders to continue to work collaboratively across regions and jurisdictions to share knowledge and experience, as strategies are put into action and evaluated.

We encourage stakeholders to utilise this report, along with the aggregate CQI data, to implement and advocate for change at local, organisational, regional and national levels.

3. ESP Project - Priority Evidence-Practice Gaps and Stakeholder Views on Barriers and Strategies for Improvement

3.1. Background

ABCD National Research Partnership/One21seventy

The ABCD National Research Partnership (the Partnership) and One21seventy, the National Centre for Quality Improvement on Indigenous Primary Health Care*, are founded on the premise that a holistic or comprehensive approach to primary health care (PHC) is fundamental to an effective health system. The One21seventy clinical audit and systems assessment tools are developed by expert reference groups and are based on widely accepted evidence-based guidelines that reflect best practice across the scope of child health. These tools have to date been used by more than 200 Aboriginal and Torres Strait Islander PHC centres across the country. Automated reports are provided routinely to health centres and managers comprising their service level audit data as well as relevant regional or state comparison data to support local and regional level CQI efforts. Appendices A and B provide more information about the One21seventy data collection process and sources used to develop the audit tools.

One hundred and seventy of these PHC centres have agreed to allow their data to be used to address the aims of the Partnership, including improving understanding of barriers and enablers to high quality care, and informing development of strategies for improvement. The Engaging Stakeholders in Identifying Priority Evidence-Practice Gaps and Strategies for Improvement' (ESP) Project contributes to this process, increasing understanding and use of national aggregate CQI data for achieving wider system change. The establishment of this growing dataset has been made possible by the active contributions of health centre staff, continuous quality improvement (CQI) facilitators, managers, policy makers, community-controlled organisations and government health authorities, researchers and clinical leaders. Their ongoing contributions are vital to making the most effective use of data for improving the quality of care for Aboriginal and Torres Strait Islander people across Australia.

Large-scale health system strengthening

Large-scale improvement in the delivery of PHC requires change at multiple levels of the health system, not only at the local health centre level. Where aspects of care are not being done well across a range of health centres, this is likely to be due to inadequacies in the broader PHC delivery system. These broader systems therefore directly impact health care and health outcomes for Aboriginal and Torres Strait Islander people. Improvements to systems should be based on evidence about what is working well and what service gaps need to be addressed. Aggregated CQI data can contribute to this evidence.

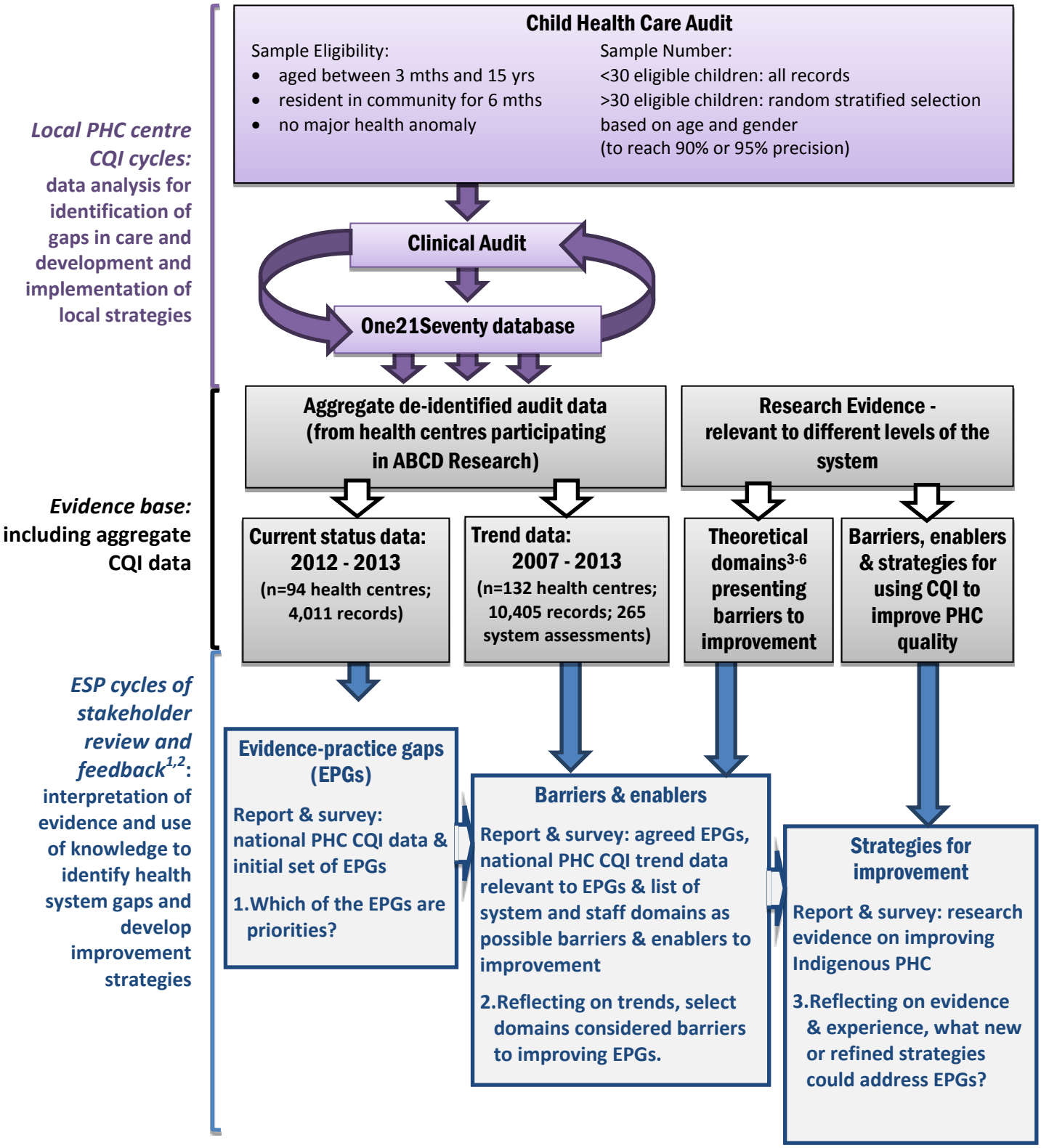
Engaging stakeholders in identifying priority evidence-practice gaps and strategies for improvement

The ESP Project is a major initiative of the ABCD National Research Partnership, and is consistent with the purpose of supporting development of the health system to provide high quality comprehensive primary healthcare on a wide-scale. It explores how aggregated CQI data can be used across the broader health system to: 1) identify evidence-practice gaps; 2) identify barriers and enablers to addressing these evidence-practice gaps; and 3) support development of system-wide strategies for improvement. This phased approach has been adapted from systematic methods designed to link interventions to modifiable barriers to address evidence-practice gaps[1,2]. As part of their approach, French and colleagues utilised previously tested theoretical domains relevant to

* For more information on the ABCD National Research Partnership: <http://www.menzies.edu.au/abcd>. For more information about One21seventy: <http://www.one21seventy.org.au/>.

behaviour change of healthcare professionals to identify barriers that should be addressed by intervention strategies[1,3,4]. In recognition that there are multiple barriers at different levels of the health system, the ESP Project has drawn on other research to include additional detail on system factors relevant to the Aboriginal and Torres Strait Islander PHC sector[2,5,6] (Figure 2). For more information about the ESP process, see Appendix C.

Figure 2. Use of aggregated CQI data for stakeholder identification of system wide evidence-practice gaps and strategies for improvement.



3.2. Aboriginal and Torres Strait Islander Child Health

From 2007 to 2013, 132 PHC centres in five States/Territories conducted One21seventy quality improvement audits for Aboriginal and Torres Strait Islander child health. Over 10,000 clinical records were audited over this period and 90% were those of Aboriginal or Torres Strait Islander children. A child's health record was eligible for audit if the child was aged between 3 months and 15 years and resident in the community for 6 months or more of the past 12 months. Appendix A provides further information on audit sampling methods.

3.2.1. Stakeholder Engagement

The ESP process for Aboriginal and Torres Strait Islander child health began in November 2013. Our aim was to circulate reports as widely as possible to engage a variety of stakeholders in the use and interpretation of aggregate data on the quality of child health care. We adopted a snowballing distribution technique, whereby key stakeholders were requested to forward reports on to other interested people. Our purpose was to draw on stakeholder knowledge and experience to identify priority evidence-practice gaps, barriers and enablers to improvement and gather views on strategies to address the gaps.

Over 134 people representing a range of organisations and roles provided feedback through online surveys over the course of the project (Table 3). Organisations represented included community controlled health centres and peak bodies, government health departments and health centres, Medicare Locals, hospital based outreach units, private enterprises and research organisations. Respondents included nurses, doctors, public health physicians, child health and other medical specialists, AHWs, community health workers, community members, CQI facilitators, middle managers, researchers and policy officers (Appendix D).

Table 3. Level of engagement in the child health ESP Project.

(n=approximate number of stakeholder responses)		**Phase 1 (n=38)**		**Phase 2 (n=47)**		**Phase 3 (n=18)**		**Review of draft final report (n=31)**	
		Individual	**Group**	**Individual**	**Group**	**Individual**	**Group**	**Individual**	**Group**
Number of responses		17	3	26	3	11	1	10	3
Number of attendees per group:	Less than 5				2				
	5 to 10		3				1		3
	11 to 20				1				
	More than 20								
Jurisdiction for which feedback was provided[#]									
National		1	1	2		1		2	
NSW				2		1		1	
Queensland		10	1	6		3	1	2	2
NT		6		14	2	5		5	
SA		1	1	2	1	2		1	1
WA				1					

Numbers may not tally with total number of respondents, as respondents were able to select multiple answers and groups may have selected a jurisdiction collectively.

3.2.2. Phase 1: Identifying priority evidence-practice gaps

In the first phase, to assist stakeholders to identify current priority evidence-practice gaps, we presented recent national audit data (2012-2013) for over 100 indicators of quality across the scope of clinical practice for child health care (based on national and jurisdictional guidelines). Over 4,000 audited records of children were included in this analysis from 94 health centres.

The national data showed some health centres were doing very well in various aspects of child health care. However, a number of areas of care were not being consistently delivered in some health centres. These evidence-practice gaps were summarised into a preliminary set of priorities using the following criteria:

- important aspects of comprehensive PHC that were generally recorded at low levels;
- aspects of care in which there was wide variation in recorded delivery of care;
- basic aspects of clinical care that were being delivered and recorded at a high level of performance by the majority of services, but delivered and recorded at a much lower level by a proportion of services; and
- components of PHC centre systems that were relatively poorly developed.

The data and preliminary priorities were circulated to key stakeholders in a Phase 1 report (see Data Supplement or email abcd@menzies.edu.au). The data were presented as boxplots to show distribution of performance across health centres (Figure 3).

Figure 3. How to read boxplots representing service delivery in 2012-2013

Box and whisker plots show:

- minimum and maximum values (ends of whiskers if no outliers);
- outliers which are values far away from most other values in the data set (or a distance that is greater than 1.5 times the length of the box);
- range of delivery by dividing the dataset into quarters:
  - the box represents the middle 50% of the dataset, and the line within the box represents the median (or middle value);
  - the right hand whisker (and outliers if present) represents the top 25% of the data
  - the left hand whisker (and outliers if present) represents the bottom 25% of the data; and
- the longer the boxplot, the greater the range (or variation).

The report was accompanied by an online survey that asked respondents to comment on the importance of each of the preliminary priorities; whether the number of priorities was about right, too many or too few; whether they aligned with priorities they were already aware of; and whether other priorities should be included. Approximately 40 people provided input into the identification of priority evidence-practice gaps. The priority evidence-practice gaps, as confirmed by respondents, are shown below with relevant indicators from the Phase 1 report.

1. Recording of immunisations in child health records

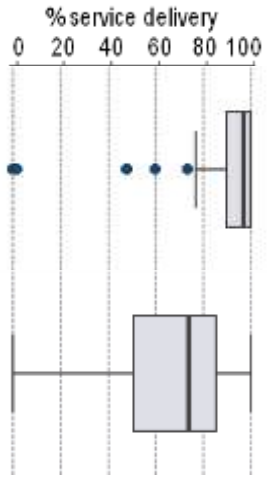
Strengthen attention to:

- immunisation chart recordings in clinical records of children; and
- delivery and recording of immunisations scheduled at birth and at 2 years and older

Indicators from Phase 1 report (n=health centres; client records)

Immunisation chart present (n=94; 4,011)

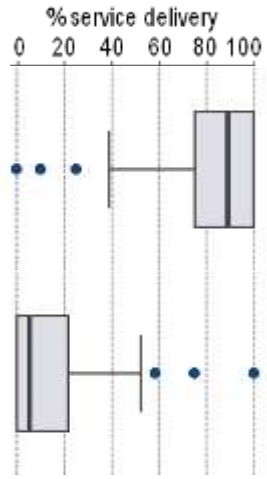
At birth (Hep B – all states; + BCG - NT, Qld) (n=92; 2,544)



Indicators from Phase 1 report (n=health centres; client records)

At 4 years (DTPa/IPV+ MMR) (n=89; 694)

At >10 years (VZV+HPV - all states;+Hep B - NSW,Qld,SA,WA; +DTPa - NT,Qld, SA,WA) (n=57; 783)



2. Monitoring and recording of key measures and follow-up of abnormal findings

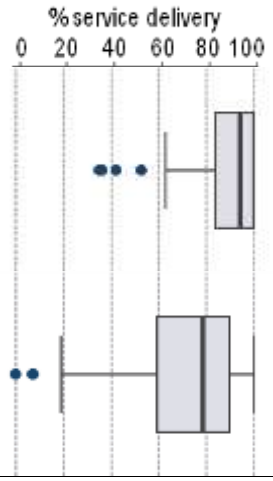
In particular, strengthen systems for:

- recording of weight, haemoglobin and developmental milestones; and
- recording and follow-up action for children with growth faltering, anaemia, chronic ear infections, developmental delay and risks related to domestic environment, financial situation, housing and food security.

Indicators from Phase 1 report (n=health centres; patient records)

Weight (n=94; 3,792)

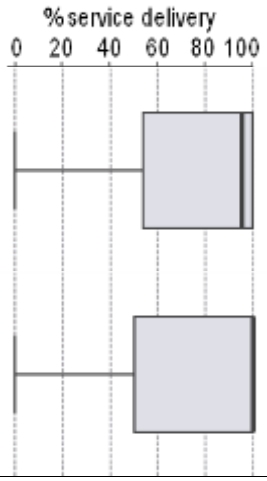
Developmental milestones (<4 years) (n=91; 1,850)



Indicators from Phase 1 report (n=health centres; patient records)

Growth faltering with record of follow-up clinical assessment (n=64; 321)

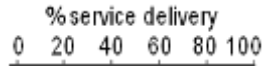
Referral for children with evidence of developmental delay (n=48; 149)



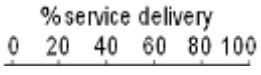
3. Recording and delivery of advice and brief interventions on common risks to health

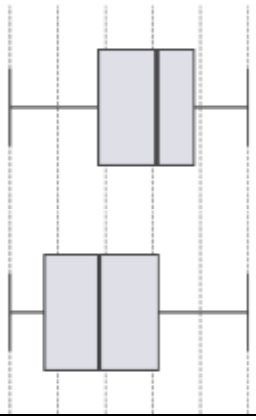
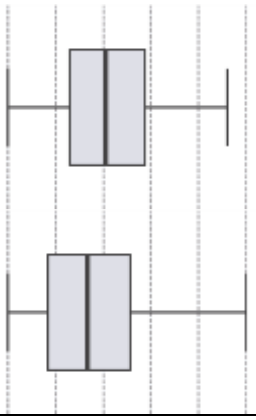
In particular, strengthen systems for recording of advice on child nutrition, child development, passive smoking risk, infection prevention and hygiene, injury prevention, domestic/social and environmental conditions.

Indicators from Phase 1 report (n=health centres; patient records)



Indicators from Phase 1 report (n=health centres; patient records)

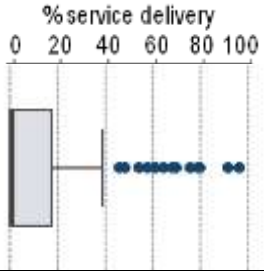
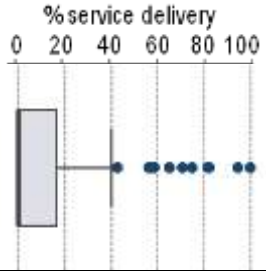


Nutrition (n=94; 3,792)		Domestic/ social environment (<5yrs WA; <6yrs NT; all ages other states) (n=94; 3,529)	
Passive smoking (<2years NT; all ages other states) (n=94; 3,248)		Infection prevention & hygiene (<3years NT; all ages QLD, SA & WA) (n=89; 3,234)	

4. Recording of enquiry on use of tobacco, alcohol and other drugs

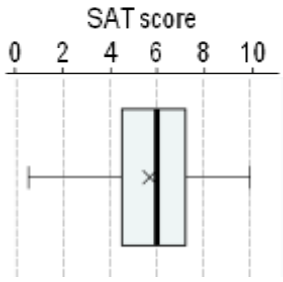
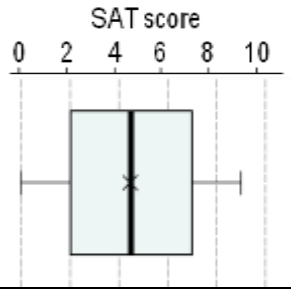
Strengthen efforts to:

- improve enquiry - and recording of enquiry - regarding use of cigarettes, alcohol and illicit drugs; and
- improve documentation of discussion and/or advice provided on these risks to children.

Indicators from Phase 1 report (n=health centres; patient records)		***Indicators from Phase 1 report (n=health centres; patient records)***	
Smoking ≥*5 yrs* (n=86; 1,622)		Drug use (≥8 yrs QLD; ≥5 yrs others states) (n=81; 1,262)	

5. Health centre systems to support high quality care

In particular, strengthen systems for more effective links between health centres and communities, and systems to support regional health planning.

Indicators from Phase 1 report (n=health centres; patient records)		***Indicators from Phase 1 report (n=health centres; patient records)***	
Links with community (n=62))		Regional health planning (n=62)	

All respondents agreed that the evidence-practice gaps were consistent with their views on priorities for improvement before reviewing the Phase 1 data. Seventy percent of respondents viewed these national priorities as similar to priorities for their jurisdiction. Less than one-third of respondents felt a different ranking of priorities may be required due to the importance of issues in specific locations, such as follow-up and referral in remote areas. Local and regional data are available for this important purpose through the One21seventy automated reporting processes. We emphasise that the focus of the ESP process is on broader system priorities – which may include the need to strengthen local and regional quality improvement systems.

3.2.3. Phase 2: Identifying barriers and enablers to addressing the priority evidence–practice gaps

In the second phase, we presented trend audit data (2007-2013: 10,405 audited records of children from 132 health centres) in boxplots to examine variation over time in key indicators relevant to the priority evidence-practice gaps (Figure 4). We asked respondents to focus on the trends in general over time, particularly whether the variation between health centres was getting less, whether there was improvement for health centres at the lower end of the range. Table 4 summarises the trend data presented in the Phase 2 report (see Data Supplement or email abcd@menzies.edu.au).

Figure 4. How to read trend boxplots over years and cycles

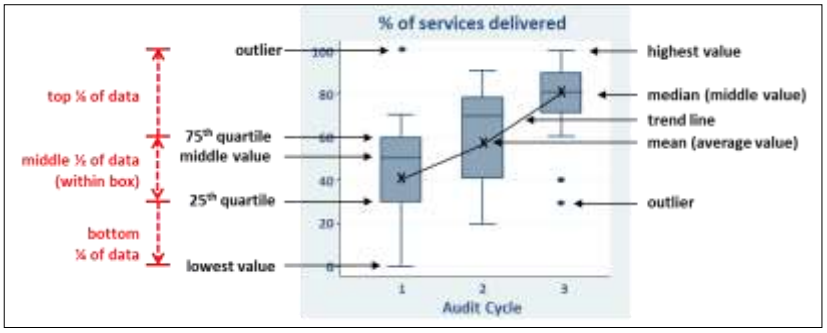
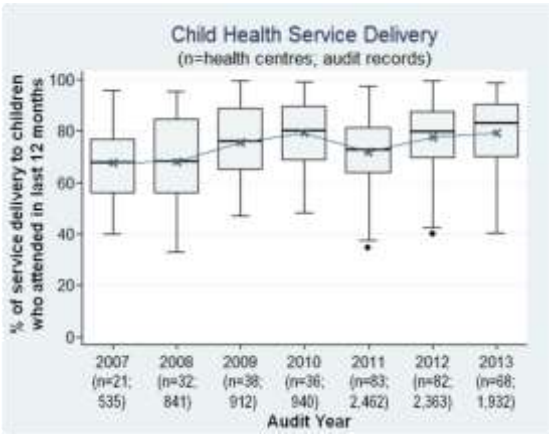
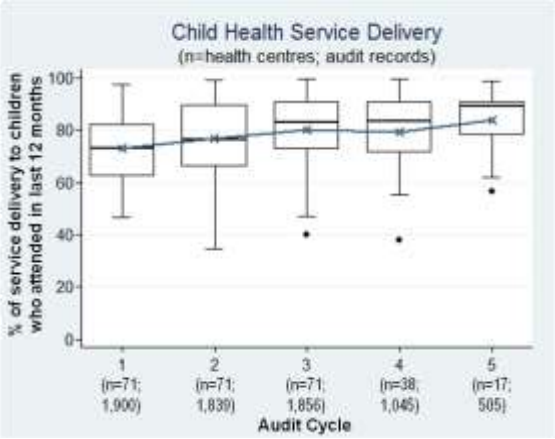


Table 4. Trends in key indicators of the priority evidence-practice gaps.

Over years 2007-2013	***Example indicator-Overall Child Health Care[#]***
• Some evidence of improvement for most indicators, including overall child health care delivery, immunisation charts in records, measles, mumps and rubella (MMR) immunisation at 4 years, clinical examinations (weight, ear, developmental milestones), follow-up (growth faltering, chronic ear infection and developmental delay), and advice and brief interventions. • No clear reduction in variation for most indicators, with evidence that a large proportion of children attending some health centres continue to have no record of delivery of key aspects of best practice care.	

[#] Overall health care score includes ten best practice indicators consistently present in the child health audit tool over time and across jurisdictions (weight, height, head circumference, hip exam, testes check, ear exam, breastfeeding, nutrition advice, SIDS prevention, and developmental check).

• ***Over at least three audit cycles***	***Overall Child Health Care**[#]*
• Evidence of improvement over successive audit cycles for most indicators, including overall child health care, MMR at 4 years, clinical exams (recording of weight, ear checks, developmental milestones), follow-up of children with growth faltering, records of advice and brief interventions, improvement in health centre systems. No clear evidence of improvement for immunisation charts, haemoglobin check or follow-up of children with anaemia. Reduction in variation for most indicators, including overall child health, most clinical examinations, and health centre systems assessment scores. No clear evidence of reduction in variation for recording of Hep B immunisation at birth, haemoglobin check or follow-up of children with anaemia.	

We encouraged stakeholders to reflect on the influences underlying the data trends, and on their experience in PHC, to identify barriers and enablers to improvement. To assist this process, the Phase 2 report survey listed health centre, system and staff domains drawn from international and national research[3,5,6] that could present obstacles to improvement. Respondents were asked to rate each domain according to its relative importance in improving each of the priority evidence-practice gaps. Approximately 50 stakeholders provided input, representing the community controlled and government health sectors, Medicare Local and research organisations. Roles represented included nurses, doctors, medical specialists, policy officers, middle management, researchers, AHWs and CQI facilitators.

To achieve improvement in overall child health care, health centre and system attributes were considered of greater or at least equal importance compared to staff attributes.

Health centre and systems attributes that were commonly considered to be the main barriers and enablers across the priority areas

In relation to respondent assessment of current health centre systems, the areas with the greatest impact on quality of care are listed below.

Staff/workforce support, recruitment and retention

Key identified barriers to addressing the priority evidence-practice gaps in this area included:

- Lack of effective systems to ensure PHC staff have support from experienced staff, especially when health centres are affected by turnover of staff and staff shortages;
- Lack of effective systems to recruit, retain and support AHWs, nurses, and doctors.

High staff turnover presents a significant challenge to achieving improvement. Systems to ensure PHC staff have support from experienced staff, especially when health centres are affected by turnover of staff and staff shortages, are widely seen as inadequate.

Systems to recruit, retain and support all categories of staff are also widely seen as inadequate, most particularly for AHWs, followed by nurses and doctors..

Shortages of particular types of staff

Key identified barriers to addressing the priority evidence-practice gaps in this area included:

- Lack of adequate numbers of AHWs, and to a lesser extent of doctors.

Consistent with the above point on recruitment, retention and support, numbers of AHWs are widely seen to be inadequate. There were similar but less strongly expressed views regarding numbers of doctors and allied health workers.

Clinical information systems and communication technology

Key identified barriers to addressing the priority evidence-practice gaps in this area included:

- Lack of training and support for staff to effectively use clinical information systems and communication technology for supporting and providing best practice care.

Training and effective support for PHC staff to use clinical information systems and communication technology for supporting and providing best practice is widely seen as inadequate. There were divergent views regarding whether the clinical information systems and communication technology in place have the functionality to support provision of best practice care.

Leadership and management

Key identified barriers to addressing the priority evidence-practice gaps in this area related to:

- Development of health centre systems

Leadership and management was commonly identified as a barrier in relation to development of health centre systems.

Training and development

Key identified barriers to addressing the priority evidence-practice gaps in this area related to:

- Inter-organisational and intra-organisational learning

Systems in place to support inter-organisational and intra-organisational learning were widely seen to be deficient. Views regarding the quality of systems to support staff development were more divergent.

Community capacity, engagement, mobilisation

Key identified barriers to addressing the priority evidence-practice gaps in this area related to:

- Health literacy and community leadership for quality

Of all issues covered by the survey, support for enhancing health literacy and community leadership with regard to best practice were identified as the weakest aspects of existing systems.

Attributes of staff considered the main barriers and enablers

PHC staff attributes, skills and the social / professional role and identity were among the most commonly identified barriers to improvement across all six priority evidence-practice gaps. Training and development relevant to each of the priority evidence-practice gaps thus appears vital to achieving improvement in these areas.

Teamwork and principles of ***population health*** are both important areas for training and development, as are ***patient-centred care*** and ***self-management***, use and support of ***quality improvement tools and processes*** and use of ***best practice guidelines and decision support resources***.

For each priority evidence-practice gap, Table 5 lists the health centre and system attributes and the staff attributes most frequently identified by respondents as the greatest barriers or enablers for improvement. Other attributes that were identified by at least ten

respondents are also listed. Further detail on the Phase 2 survey findings are provided in Appendix E.

Table 5. Attributes commonly identified as barriers/enablers for improving priority evidence-practice gaps.

Priority evidence-practice gaps	Health centre and system attributes	Staff attributes
Immunisation	• Training and development • Community capacity, engagement and mobilisation • Shortages of particular types of staff • Clinical information systems and communication technology	• Skills • Social / professional role and identity
Clinical examinations and follow-up of abnormal findings	• Clinical information systems and Communication technology • Shortages of particular types of staff • Staff / workforce support, recruitment and retention • Training and development	• Skills • Beliefs about capabilities
Advice and brief interventions	• Staff / workforce support, recruitment and retention • Shortages of particular types of staff • Training and development	• Skills • Social / professional role and identity
Alcohol, tobacco and other drugs	• Staff / workforce support, recruitment and retention • Training and development • Community capacity, engagement and mobilisation	• Social influences • Social / professional role and identity • Skills • Beliefs about capabilities
Health centre systems	• Leadership and management • Financing and resources • Staff / workforce support, recruitment and retention • Clinical information systems and Communication technology	• Knowledge • Skills

Phase 3: Strategies for addressing the priority evidence-practice gaps

In the third phase, we presented a brief synthesis of published evidence on improving the quality of Aboriginal and Torres Strait Islander PHC (Appendix F). The purpose of this 'evidence brief' was to stimulate feedback on strategies to overcome the identified barriers and enablers from Phase 2. Stakeholders considered the information and completed questions in the Phase 3 survey about how existing strategies could be refined, or new strategies developed, in order to build on current strengths and enablers in the system and overcome the main barriers to addressing the priority evidence-practice gaps. Further detail on the Phase 2 survey findings are provided in Appendix G. Approximately 20 people responded to the phase 3 survey.

Strategies for improvement relevant to all priority evidence-practice gaps in child health care

Respondents proposed the following strategies to address the most common barriers and enablers identified from Phase 2 that apply to all priority evidence-practice gaps. These include: development and use of clinical information systems; community engagement;

staff training and expert support; infrastructure to support interagency linkage; and use of continuous quality improvement data.

1. Clinical information systems

Continue to improve and make better use of information systems and communication technology. Keep software up to date to align systems with best practice. Focus on data entry and follow-up mechanisms for immunisation and other reminders; encourage visiting medical staff to use health centres' clinical information systems. Sharing electronic records across providers should facilitate follow-up, completeness of children's records and efficiency of care.

2. Community engagement

Developing child health champions and empowering local staff to use community networks and mobile immunisation units could improve immunisation rates. When implementing preventive and public health interventions, the involvement of AHWs is key. Include practical support for families to develop strategies to reduce risks to child health, and community education about the importance of discussing ATOD issues with children from an early age. Use culturally appropriate media and communications technology to support the provision of health advice.

3. Staff training

Invest in staff training in immunisation, accurate data entry on immunisation records, use of clinical information systems, community engagement, brief interventions and referral. Staff need skills and confidence to engage with families and children to talk about ATOD use in safe and effective ways, and to document discussions. Developing staff capability in interventions for children identified at risk is likely to pay off by reducing reliance on specialised allied health staff. Bringing together AHWs/ATSIHPs and nurses for skills training should encourage trans-disciplinary practice and improve knowledge of respective roles in child health.

4. Expert support for staff

Primary health care staff need up-to-date knowledge of best practice guidelines for child health and access to qualified specialist staff for on-site and phone/internet support. Provide smoking cessation support for staff, and support to deliver programs within schools and other community settings; these strategies should help staff provide families with effective ATOD interventions, especially when complemented with appropriate media campaigns.

5. Interagency linkage

Aim for less siloed service delivery and better interagency coordination through linking of clinical information systems between providers, and opportunities for staff across agencies to share relevant knowledge about clients. Interagency staff placements and training can be used to share resources and skills at the local level.

Explore new funding models to extend multipurpose health care services. Central care agencies (such as primary health care centres or general practice providers) should streamline family intake and improve continuity of care for children and families. They should provide coordination points for all service provision, including links to hospitals and child protection services.

6. Continuous quality improvement and use of data

Use CQI processes and data to address gaps in best practice care and identify the staff skill mix needed in communities. Managers and clinical staff should collaborate to find solutions to address identified areas of service need. Use data to advocate to funding bodies about community needs at local, regional and national levels.

Many of the suggested strategies are relevant to a number of the identified barriers and enablers, rather than being specific to particular barriers or enablers. In developing

strategies for overcoming the barriers it will be important to ensure the more general strategies do include a focus on overcoming the specific identified barriers and strengthening specific enablers, rather than being too diffuse.

Additional strategies to overcome barriers and enhance enablers specific to priority evidence-practice gaps

Respondents proposed the following new or refined strategies to build on enablers and overcome barriers to addressing each of the priority-evidence practice gaps in child health care (Table 6).

Table 6. Summary of new or refined strategies and associated actions to address gaps in Aboriginal and Torres Strait Islander child health care.

Phase 1 - Priority evidence-practice gaps	**Phase 2 – Barriers & enablers to address practice gaps**		**Phase 3 – New or refined strategies & associated actions to overcome barriers & strengthen enablers**	
	Health centre and system attributes	*Staff attributes*	*Strategies*	*Associated actions*
Immunisations Systematic recording of all immunisations in child health records, and the delivery of immunisations scheduled for delivery at birth and at 2 years and older	• Training and development • Community capacity, engagement and mobilisation • Shortages of particular types of staff • Clinical information systems and communication technology	• Skills • Social / professional role and identity	• Shared electronic records to enhance efficiency and completeness of immunisation records • Staff training particularly in immunisation and community engagement and accurate data entry of immunisation • Ongoing improvements in clinical information systems with data entry and establishment of follow-up mechanisms to remind patients to attend • Establish an immunisation 'hotline' to provide staff with immediate advice on immunisations due for particular clients • Systems to engage with community to educate and reduce the number of missed immunisations	• Continue to work towards electronic transfer of records and better connectivity between different service provider systems • Training of staff on data entry and use of data to maintain accurate immunisation records • With appropriate resourcing, increase number of immunisers through training and develop staff to be immunisation/child health champions in community • Mobile immunisation units to service and educate communities on the benefits of wide-scale immunisation programs

Clinical examinations and follow-up of abnormal findings and identified risks Systematic monitoring and recording of key measures, including weight, haemoglobin and developmental milestones and follow-up action for growth faltering, anaemia, chronic ear infections, developmental delay, and risks related to domestic environment, financial situation, housing and food security	• Clinical information systems and communication technology • Shortages of particular types of staff • Staff / workforce support, recruitment and retention • Training and development	• Skills • Beliefs about capabilities	• Improve use of clinical information systems to facilitate follow-up processes across multiple providers • Promote preventive health and public health level interventions such as helping families develop strategies to reduce risk • Less siloed service delivery. Build capacity of all primary health care professionals in child health • Improve interagency coordination in service provision to ensure comprehensive delivery in a limited resource environment and prevent duplication of services • Improve processes for reminders and follow-up and clarity of staff responsibilities	• Improve recording and consistency of data entry through training on use of clinical information systems and uniform data specifications • Encourage visiting medical staff to use the health centre clinical information system • Develop staff capability to provide interventions for children identified at risk to reduce reliance on specialised allied health staff • Increase interagency working (e.g. rotational placements) to build skills and increase understanding and familiarisation of different services and to counteract staff shortages

Table 6 cont: Summary of new or refined strategies and associated actions to address gaps in Aboriginal and Torres Strait Islander child primary health care.

Phase 1 - Priority evidence-practice gaps	**Phase 2 – Barriers & enablers to address practice gaps**		**Phase 3 – New or refined strategies & associated actions to overcome barriers & strengthen enablers**	
	Health centre and system attributes	*Staff attributes*	*Strategies*	*Associated actions*
Advice and brief interventions Systematic recording of advice or brief interventions on child nutrition, passive smoking, infection prevention and hygiene, injury prevention, domestic/social and environmental conditions, and child development	• Staff / workforce support, recruitment and retention • Shortages of particular types of staff • Training and development	• Skills • Social / professional role and identity	• Collaboration between management and clinical staff to address areas of service need (as identified by CQI processes) • Improve processes to support provision of brief interventions including the identification of referral services to follow-up on risks identified • Up-skill staff on best practice guidelines and facilitate software updates to align clinical information systems with best practice • Use latest technology available with culturally appropriate communication and media to enhance provision of advice and brief interventions to community	• Management to reflect on data to ensure staff skill mix (where possible) is in line with community needs • Training and support for staff to provide brief interventions • Use qualified staff to provide support on site or over the phone/internet to supplement skill shortage in specific areas • Improve understanding of alternative ways for staff to obtain information from and provide information to families
Enquiry and advice on use and risks of alcohol, tobacco, and other drugs Systematic recording of enquiries made regarding use of ATOD, and discussion and/or advice provided on risks to health of children	• Staff / workforce support, recruitment and retention • Training and development • Community capacity, engagement and mobilisation	• Social influences • Social / professional role and identity • Skills • Beliefs about capabilities	• Develop capacity of staff to engage with families and children on sensitive discussions in a way that is safe and effective • Facilitate access to specialised ATOD staff to assist with development of education and cessation programs within schools and community • Support AHWs work in community engagement, education and development	• Provide training to improve competency of staff to engage families and children and on appropriate ways to document brief interventions • Educate communities in a culturally appropriate way about importance of starting discussions on these issues with children at an early age • Increase appropriate media campaigns targeting ATOD issues and their effect on individuals and communities

Table 6 cont – Summary of new or refined strategies and associated actions to address gaps in Aboriginal and Torres Strait Islander child primary health care.

Phase 1 - Priority evidence-practice gaps	**Phase 2 – Barriers & enablers to address practice gaps**		**Phase 3 – New or refined strategies & associated actions to overcome barriers & strengthen enablers**	
	Health centre and system attributes	*Staff attributes*	*Strategies*	*Associated actions*
Health centre systems Reduce the wide variation between health centres in the state of health centre system development, and specifically strengthen systems for effective links between health centres and communities, and systems to support regional health planning	• Leadership and management • Financing and resources • Staff / workforce support, recruitment and retention • Clinical information systems and Communication technology	• Knowledge • Skills	• Improve continuity of care for children and families by having a designated central care agency (such as the PHC centre or GP provider) acting as a coordination point for all service provision including links to hospitals and child protection • Reduce siloed approaches to service delivery through extension of multipurpose health care services, multidisciplinary and interdisciplinary services and interagency models of care • Support training in all aspects of child health. • Continued use of CQI processes to address gaps in best practice care	• Explore new funding models to improve interagency working • Promote use of data to advocate to funding bodies about community needs at all levels (local, regional, national) • Management to support processes to identify gaps in the system and act on potential solutions. • Develop systems to reduce need for clients to provide the same information to multiple agencies and care providers, and to improve continuity of care • Improve sharing of training across agencies to ensure local skills are shared and accessed

3.3. ESP Project strengths and limitations

The dataset used for the ESP Project is the most comprehensive and broad scale dataset relating to health centre performance available for Aboriginal and Torres Strait Islander child health care. As stated, the aggregate CQI data are from more than 10,000 clinical records of children from multiple services across several jurisdictions, audited against best practice over multiple audit cycles. From this evidence base, stakeholders were able to identify current priority evidence-practice gaps. While the majority of CQI data used in this report are drawn from two jurisdictions (between 75% and 85% of respondents over the three phases were responding on behalf of these two jurisdictions), a majority of respondents to the Phase 1 survey from other jurisdictions viewed the priorities from the national child health data as being consistent with their view of the priorities for their state or territory. Therefore, the priority evidence-practice gaps appear reasonably generalisable to a national level.

An open process was used to engage stakeholders, consistent with the principle that 'CQI is everybody's business'. Stakeholders could choose to participate in any or all project phases. However, the ESP project has relied, in part, on stakeholders sending reports to others, thus it has not been possible to accurately measure reach or response rates. Although the survey information from phases two and three may be of relatively limited generalisability, the data on barriers and enablers and on strategies for improvement are valuable in that they reflect tacit knowledge of front-line health workers and others working within the health system. In recognition that barriers exist across multiple levels of the health sector, we included questions on broader health centre and system determinants of performance[5,6] into the Phase 2 survey. These additional questions on influences on quality of care have not been validated in the way that has been done for other questions covering the theoretical domains framework.

It will be important to ensure the detailed design of strategies is based on published evidence and local expert knowledge of approaches that support effective interventions for improving the quality of care for Aboriginal and Torres Strait Islander children. It will also be important to evaluate the effectiveness of these strategies in a range of contexts. If intervention efforts are documented appropriately, use of this theory-based process will assist with developing the knowledge base of what works and in what contexts to improve child health care for Aboriginal and Torres Strait Islander communities.

An iterative process was used to develop and refine reports through the project phases, with adjustments to content and presentation made over time in response to stakeholder feedback. A concurrent developmental evaluation is guiding ESP process improvements. Based on the evaluation, further refinements will be incorporated into future ESP Projects on other aspects of Aboriginal and Torres Strait Islander PHC, in an effort to improve engagement and use of reports.

3.4. Conclusions/Recommendations

To our knowledge, this is the first use of large-scale aggregate CQI data beyond the regional level to allow key stakeholder input into priority gaps in delivery of best practice child health care to Aboriginal and Torres Strait Islander communities. The main purpose of ESP was to engage a variety of stakeholders in the use of aggregate CQI data and to stimulate conversation on priority areas for improvement and how best to achieve improvement. Implementation research suggests that interventions to achieve improvement should be focussed on the key barriers and enablers of good performance, and that such interventions are more likely produce the desired change[1,2].

The major themes for improving Aboriginal and Torres Strait Islander child health care included activating a population health approach with improved collaboration across sectors (including social determinants), developing infrastructure to support enhanced

collaboration (including information technology platforms), improving coordination of care across child agencies and building staff and community capacity to contribute to improvements in child health.

Comprehensive change is required across all health system levels if improvements are to be achieved. We encourage stakeholders to take on the key messages and utilise the report, along with the aggregate CQI data, to implement and advocate for change at the local, regional and national level.

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6. Wagner E, Austin B, Davis C, et al. A. (2001) Improving chronic illness care: translating evidence into action. *Health Affairs.* 20(6):64-78.

Appendix A – One21seventy data collection and reporting

Where do the data in this report come from? The report is based on analysis of audits of clinical records of children who attend services that are *engaged with One21seventy* AND *participating in the ABCD National Research Partnership*. The child health audit tool was developed by an expert working group, with participation of child health experts and health service staff from a number of States and the Northern Territory. The tool is designed to enable services to assess their actual practice against best practice standards, and is accompanied by a protocol that includes reference to the guidelines and standards that form the basis of the tool (the reference list is included at Appendix B). The tool was made available to services from 2007 to assist health centres assess service delivery to children aged 3 months to 6 years. A review of the tool in 2011 extended the age range to <15years. The audit data are supported by a summary of system performance as assessed by staff in health centres that completed a systems assessment tool (SAT) related to child health service delivery. Copies of the One21seventy Child Health Audit Tool and how the audits are conducted are available on request.

Who collects the audit and systems assessment data? The clinical audits are generally done by health centre staff who have been trained in the use of One21seventy tools and who are supported by continuous quality improvement (CQI) facilitators and One21seventy staff. In some centres where staff are not available or lack skills or confidence, the audits are done by the CQI facilitators. The Systems Assessment is completed by health centre staff in a process that is facilitated by a CQI facilitator.

How have the data been reported to health centres? The data collected through One21seventy audit and systems assessment tools and entered into the One21seventy web-based information system are analysed and made available to health centres in real time through the web-based information system. Reports of aggregated data for clusters of health centres, by region or by state are also available through the One21seventy web-based information system in order to support regional or state/territory level CQI efforts. The Engaging Stakeholders in Identifying Priority Evidence-Practice Gaps and Strategies for Improvement in Primary Health Care (ESP) Project is intended to contribute to enhancing the quality of reporting and use of aggregated CQI data for the purpose of service improvement.

Restrictions and limitations on the data presented. The data in this report are not expected to be representative of all health centres nationally or for specific jurisdictions because participation of health centres is either through self-selection or through regional decision making processes. In jurisdictions where a high proportion of health centres are participating, the data may be more generalisable; for jurisdictions where there are relatively few health centres participating the data are less generalisable.

The data reflect what has been documented in electronic and paper based patient records, depending on what record systems are used in each health centre. There has been a trend in recent years to increasing use of electronic records. Many health centres are still using a paper-based system, and some are using a mix of paper and electronic systems. The quality of recording of clinical care is variable in both paper and electronic systems, and the audit data may not provide a true reflection of actual care. However, accurate and clear recording of care is an important aspect of quality of care and has important implications for continuity and coordination of care, for medico-legal purposes and for efficient use of resources.

Criteria for inclusion of records in the audit: A child's health record is eligible for audit if the child has been resident in the community for 6 months or more of the past 12 months (or if the child is <12 months, resident in the community for at least half of the time since birth) and has no major health anomaly such as Down Syndrome, cerebral palsy, heart defects or

inherited disorders. Where the eligible population is 30 children or less, the audit protocol recommends including all records. Where the eligible population is greater than 30, the protocol provides guidance on the ***random*** selection of a number of records, with the number depending on the precision of estimates required by health service staff. The samples are ***stratified*** by age group and gender with equal numbers of males and females in the following categories: 3-<12mths; 12mths-<3yrs; 3-<6yrs; 6-<9yrs; 9-<12yrs; and 12-<15yrs.

Appendix B – Sources

The child health clinical audit protocol draws heavily on the following:

1. CARPA (Central Australian Rural Practitioners Association) (2009). ***Standard treatment manual: A clinical manual for primary health care practitioners in remote and rural communities in Central and Northern Australia*****,** 5th edition, CARPA, available at <http://www.carpa.org.au/fmanual.htm> (from here on referenced as 'CARPA, 5th edn, 2009').
2. MBS (Medical Benefits Scheme) ***Health assessment for Aboriginal and Torres Strait Islander people*** (MBS Item 715), available at <http://www.health.gov.au/internet/main/publishing.nsf/Content/mha_resource_kit> (from here on referenced as 'MBS 715').
3. Queensland Health, Royal Flying Doctor Service (Queensland Section) and Apunipima Cape York Health Council (2010), ***Chronic disease guidelines***, 3rd edition, Queensland Health, Royal Flying Doctor Service (Queensland Section) and Apunipima Cape York Health Council, Cairns (from here on referenced as 'CD Guidelines, 3rd edn, 2010').
4. Royal Flying Doctor Service (Queensland Section) (2009), ***Primary clinical care manual* (PCCM)** 6th edn, available at <http://www.health.qld.gov.au/pccm/pccm_updates.asp> (from here on referenced as 'PCCM, 6th edn, 2010').

Other references include:

5. AHMC (Australian Health Ministers' Advisory Council), 2011, ***National framework for universal child and family health services*** *[ONLINE]* Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/119CD12CB66F8514CA257B660002C659/$File/NFUCFHS.PDF> [accessed 9 August 2013].
6. Australian Government, 2013, ***National Aboriginal and Torres Strait Islander health plan 2013-2023***, Commonwealth of Australia [ONLINE] Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/2B39FA14C286E3EECA2579E800837B5F/$File/health-plan.pdf> [accessed 12 August, 2013].
7. Centre for Eye Research, 2013, ***Indigenous eye health,*** [ONLINE] Available at: http://www.cera.org.au/our-research/key-projects/indigenous-eye-health [accessed 9 August 2013].
8. COAG, (Council of Australian Governments), 2009 ***National strategy for food security in remote indigenous communities***, [ONLINE] available at: <http://www.coag.gov.au/sites/default/files/nat_strat_food_security.pdf> [accessed 16 August 2013].
9. CDNA (Communicable Disease Network Australia), 2006 ***Guidelines for the public health management of trachoma in Australia,*** [ONLINE] available at [accessed 9 August 2013] <http://www.health.gov.au/internet/main/publishing.nsf/Content/1EBA6A6D1AEB9569CA2571570008FB93/$File/Trachoma2.pdf>
10. Department of Health and Families, Northern Territory, 2010, ***Healthy skin program, guidelines for scabies, skin sores and crusted scabies in the Northern Territory*** [ONLINE] available at <http://digitallibrary.health.nt.gov.au/dspace/bitstream/10137/436/1/Healthy_Skin_Program_2010.pdf> [accessed 9 August 2013].
11. Healthy Under 5's kids Program (HU5Ks), Northern Territory Government Department of Health and Families, October 2010 <http://remotehealthatlas.nt.gov.au/healthy_under_5_kids_program.pdf>
12. NACCHO/RACGP, 2012 ***National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people****.* 2nd edn. South Melbourne: The RACGP, [ONLINE] Available at: <http://www.racgp.org.au/guidelines/nationalguide> [accessed 23 April 2013].

13. National Immunisation Program schedule, Australian Government Department of Health and Ageing. Available at <http://www.health.gov.au/internet/immunise/publishing.nsf/content/nips2>
14. RACGP (Royal Australian College of General Practice), 2012, ***Guidelines for preventive activities in general practice,*** *8th edition* [ONLINE] Available at: <http://www.racgp.org.au/your-practice/guidelines/redbook/preventive-activities-in-children-and-young-people/> [accessed 12 August 2013].
15. Telethon Institute for Child Health Research and Kulunga Research Network, 2004, Western Australian Aboriginal Child Health Survey (WAACHS). Available at <http://www.ichr.uwa.edu.au/waachs>
16. Telethon Institute for Child Health Research and Kulunga Research Network, 2006, Western Australian Aboriginal Child Health Survey (WAACHS). Available at <http://www.ichr.uwa.edu.au/waachs>
17. WHO (World Health Organization) Geneva, 2004, Family and community practices that promote child survival, growth and development. A review of the evidence (executive summary).

Appendix C – Overview of the ESP Project

The 'Engaging Stakeholders in identifying Priority evidence-practice gaps and strategies for improvement' (ESP) Project draws on theory-informed behaviour change concepts. [1] It aims to explore how aggregated CQI data can be used across the broader health system to identify and address priority areas for improvement, where gaps between guideline recommended services and actual practice are relatively large, more common or more important. The project aims to:

- Identify participant views on the priorities and strategies for improvement in PHC for Aboriginal and Torres Strait Islander people, in light of the CQI data presented.
- Provide opportunities for discussion and use of CQI data and evidence from research to inform improvement across all levels of the health system.
- Learn more about how CQI data can be presented and made available to leaders, managers and influencers across the health system.

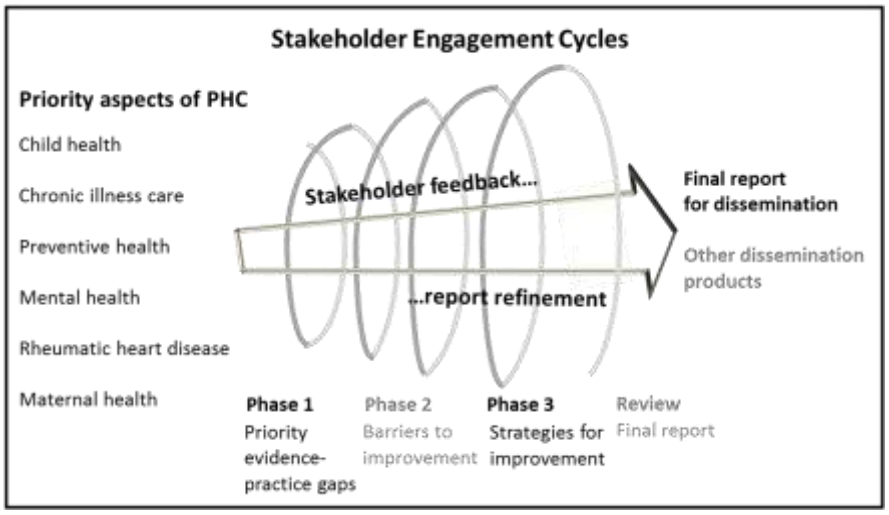
Large-scale improvement in the delivery of PHC requires change at multiple levels of the health system, not only at the local health centre level. Where there are aspects of care that are not being done well across a range of health centres, this is likely to be due to inadequacies in the broader PHC system. These broader systems therefore directly impact health care and health outcomes for Aboriginal and Torres Strait Islander people. Improvements to systems should be based on evidence about what is working well and what service gaps need to be addressed. Quality CQI data can contribute to this evidence.

This project aims to engage key stakeholders in the interpretation and use of aggregated CQI data; specifically, to engage them in a process for determining priorities for improvement, identifying barriers and enablers to high quality care, and using the information from this process to inform development of system-wide strategies for improvement.

The aim of the project is to contribute to strengthening the system to provide high quality comprehensive healthcare on a wide scale.

[1] French SD, Green SE, O'Connor DA, McKenzie JE, Francis JJ, Michie S, Buchbinder R, Schattner P, Spike N & Grimshaw JM. (2012) Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework. *Implementation Science* 7(1): 38.

Figure C1: ESP Project Phases



Phases of the ESP Project

Phase 1 – Evidence-practice gaps

This phase focuses on the identification of priority areas for improvement (priority evidence-practice gaps) in the delivery of Aboriginal and Torres Strait Islander PHC.

Information provided to participants

- aggregated CQI data (2012-2013) about the delivery of PHC services presented in national and State/Territory reports
- preliminary priority areas for improvement, based on national data

Feedback/data collection

Online survey, workshop sessions and email responses.

Outputs

Draft report on preliminary priority evidence-practice gaps in PHC delivery. Refinements based on stakeholder feedback and survey data will be incorporated into Phase 2 report.

Phase 2 – Barriers and enablers

This phase focuses on trends in indicators relevant to the identified priority evidence-practice gaps, and on influences that may enable or hinder improvement at different points in the health system. In particular, it seeks to identify those factors that may be most important in addressing the identified priority evidence-practice gaps in child health care identified in Phase 1.

Information provided to participants

Report on trends over time for key indicators relevant to priority evidence-practice gaps.

Feedback/data collection

Online survey, including questions about barriers and enablers to improvement based on international, national and Aboriginal and Torres Strait Islander-specific evidence and frameworks.

Outputs

Draft report on barriers and enablers to improvement in care relevant to identified priority evidence-practice gaps, based on responses to the online questionnaire. The draft report will be returned to participants for review in Phase 3.

Phase 3 – Strategies for improvement

This phase focuses on identifying new or existing strategies that could be introduced or strengthened to enable improvement in priority evidence-practice gaps.

Information provided to participants

- draft report on barriers and enablers to improvement in care relevant to the identified priority evidence-practice gaps (report from Phase 2)
- An evidence brief synthesising findings from research about barriers, enablers and strategies for improvement in the delivery of PHC, with particular attention to research in the Australian Aboriginal and Torres Strait Islander health context.

Feedback/data collection

Online survey. Participants will be encouraged to draw on their own experience, the evidence brief and the data presented throughout the project to identify strategies to address priority evidence-practice gaps.

Outputs

Draft report on strategies to address priority evidence-practice gaps. This report will be based on the Phase 2 report on barriers and enablers and on expert input on strategies for improvement provided through Phase 3.

Review and final report

A draft final report that includes the strategies for improvement will be returned to participants for review. Comments from the review will be used to inform a final report on evidence practice gaps and stakeholder views on strategies for improvement. The final report will be provided to key stakeholders in all participating jurisdictions. Project findings will be reported in academic journals and in conference presentations and workshops.

Appendix D – Respondents

	Phase 1		Phase 2		Phase 3		Draft final report review	
	Individual responses	**Group responses**	**Individual responses**	**Group responses**	**Individual responses**	**Group responses**	**Individual responses**	**Group responses**
Number of responses	17	3	26	3	11	1	10	3
Number of attendees per group								
Less than 5				2				3
5 to 10		3				1		
11 to 20				1				
More than 20								
Jurisdiction for which feedback was provided*								
National	1	1	2		1		2	
NSW			2				1	
Queensland	10	1	6		3	1	2	2
NT	6		14	2	5		5	
SA	1	1	2	1	2		1	1
WA			1					
Rurality of population group to which responses relate*								
Urban	7	1	6		3		3	1
Regional	7	2	14		4		4	2
Remote	13	2	21	3	9	1	9	2
Number and proportion of group responses identified as Indigenous								
All								
Majority (more than half)	N/A		N/A		N/A	1	NA	1
Minority (less than half)	N/A	1	N/A	3	N/A		NA	1
None	N/A	2	N/A		N/A		NA	1
Number of individual responses identified as Indigenous								
Indigenous		N/A		N/A		N/A		NA
Non Indigenous	10	N/A	26	N/A	11	N/A	9	NA
Position types								
Nurse	4		3	2	2	1	1	3
Middle Manager		1	1		1	1	1	1
Doctor	1		1			1	1	2
Public Health Physician		1						1
Other Medical Specialist	2	2	2		1		1	
Senior Management/executive								1
CQI facilitator	1	1	4	1	3		2	1

Board member								1
Policy officer		1	3		1			
Aboriginal and/or Torres Strait Islander practitioner				1		1		2
Research/Academic			7	1	1	1	3	1
Other	4	2	5	1	1		1	2
Organisation types								
Community controlled health centre	1		2	2	1	1	3	3
Community controlled peak body	2	1	1	1	1			1
Government health centre		2	1	1	3		1	1
Government health department		2	9	2	4		1	
Medicare Local	1		1					1
General Practice			0					
University/Research organisation		2	7		1		4	1
Other		7	5		1		1	1

*Numbers may not tally with total number of respondents as respondents were able to select multiple answers

Appendix E – Barriers and enablers to addressing priority evidence-practice gaps

The data presented in this appendix is from Phase 3 child health report 'Barriers and enablers for addressing priority evidence-practice gaps in child health.' This report is available on request.

In this phase of the ESP Project we encouraged stakeholders to review the information on barriers and enablers that came out of Phase 2, to reflect on the evidence brief '*Improving the quality of Aboriginal and Torres Strait Islander primary health care: what the research shows'* (Appendix F), and to consider some key questions regarding strategies for addressing the priority evidence-practice gaps.

Health centre and system attributes – summary of findings

See Tables E1 and E3 in this Appendix for survey data.

Across the six areas of priority evidence-practice gaps the two domains of health centre and system attributes that were identified most commonly as presenting the ***greatest barriers to improvement*** were:

- ***Staff/workforce support, recruitment and retention***
- ***Clinical information systems and communication technology***

The next most commonly identified domains were:

- ***Staffing / workforce***
- ***Leadership and management***
- ***Training and development***
- ***Community capacity, engagement, mobilisation***

Staff/workforce support, recruitment and retention

Key identified barriers to addressing the priority evidence-practice gaps in this area included:

- ***Lack of effective systems to ensure PHC staff have support from experienced staff, especially when health centres are affected by turnover of staff and staff shortages***
- ***Lack of effective systems to recruit, retain and support AHWs, nurses, and doctors.***

More than two thirds of respondents strongly or partly disagreed that there were good systems in place to ensure PHC staff have support from experienced staff, especially when health centres are affected by turnover of staff and staff shortages. A number of respondents made additional comments that highlighted the challenges of high staff turnover. There were also high levels of disagreement with the statement that there were good systems in place to recruit, retain and support AHWs. There were similar but not as strongly expressed views regarding nurses and doctors, with less strongly expressed views and higher levels of uncertainty among respondents with regard to other categories of workers, including medical specialists, allied health workers, and administrative staff.

Clinical information systems and communication technology

Key identified barriers to addressing the priority evidence-practice gaps in this area included:

- ***Lack of training and support for staff to effectively use clinical information systems and communication technology for supporting and providing best practice care***

More than two thirds of respondents strongly or partly disagreed that PHC staff are trained and effectively supported to use clinical information systems and communication technology for supporting and providing best practice. There were divergent views regarding the statement that the clinical information systems and communication technology in place have the functionality to support provision of best practice care, with a roughly even split between those agreeing and disagreeing with this statement and between 10% and 20% of respondents expressing strong agreement or disagreement with the statement. It appears that the lack of training and support in effective use of information systems and communication technology presents a more significant barrier than the functionality of existing systems. Respondents' comments highlighted the need to improve integration or inter-operability of IT systems within and between services and levels in the health system, to improve guidance on use of IT systems, to enable prioritisation of recalls

Staffing / workforce

Key identified barriers to addressing the priority evidence-practice gaps in this area included:

- ***Lack of adequate numbers of AHWs, and to a lesser extent of doctors***

More than two thirds of respondents strongly or partly disagreed that primary health care centres generally have adequate numbers of staff. This view was most strongly expressed in relation to AHWs, with more than four out of every five respondents strongly or partly disagreeing with the statement PHC centres generally have appropriate numbers of AHWs. Similar but not as strong views were expressed with regard to numbers of doctors. A relatively large number of respondents expressed strong views regarding shortage of allied health workers, but there was generally a higher level of uncertainty among respondents regarding this category of staff. Views regarding shortages of nurses, and administrative staff were less strongly expressed, and views regarding availability of medical specialists were relatively divergent. A number of respondents made additional comments about the need for nurses with more specialised training in child health.

Leadership and management

Key identified barriers to addressing the priority evidence-practice gaps in this area related to:

- ***Development of health centre systems***

There was one area of priority evidence-practice gaps where leadership and management was particularly commonly identified as a barrier, and this was in the area of health centre systems. There were generally relatively positive responses to the statements 'there is good clinical and management leadership at the regional, state, national level for supporting and providing best practice', 'there are good networks and regional coordination between parties involved in supporting and providing best practice', and 'managers actively support the development of partnerships across the health sector for the purpose of enhancing delivery of best practice care'. There is a relative lack of strongly expressed views in relation to these statements. There is some indication in the responses to these statements of a need to strengthen networks, regional coordination and partnerships. One respondent made additional comment on the variability across states and territories of leadership support for best practice, and another commented on the need to strengthen accountability regarding adherence to best practice care. There may be other ways that leadership and management may present a barrier to addressing the priority evidence-practice gaps that are not adequately reflected in the issues covered by the survey.

Training and development

Key identified barriers to addressing the priority evidence-practice gaps in this area related to:

- ***inter-organisational and intra-organisational learning***

About two-thirds of respondents strongly or partly disagreed with the statement 'there are good systems in place to support inter-organisational and intra-organisational learning'. Views regarding the statement 'there are good systems in place to support staff development, including the development of knowledge and skills required' were relatively divergent, with 18% of respondents either strongly disagreeing or agreeing with the statement. One respondent made an additional comment on 'the lack of opportunities for face-to-face networking and sharing of ideas, the lack of benchmarking opportunities and benchmarking reports or the capacity to respond in time with benchmarking reports when opportunities arose'.

In terms of ***PHC staff attributes, skills and the social / professional role and identity*** were among the most commonly identified barriers to improvement across all six priority evidence-practice gaps. Training and development relevant to each of the priority evidence-practice gaps thus appears vital to achieving improvement in these areas.

Teamwork and principles of ***population health*** are both important areas for training and development, with about 70% of respondents partly or strongly disagreeing with the statement that PHC staff are well trained in these areas. ***Patient-centred care*** and ***self-management*** are also important areas for training, with more than half of respondents partly or strongly disagreeing with the statement that there are good systems in place to train PHC teams in providing patient-centred care or in the principles of self-management relevant to child health. Use and support of ***quality improvement tools and processes*** is another important area for training, with about half of respondents partly or strongly disagreeing that managers and staff are adequately trained in this area. About 40% of respondents either partly or strongly disagreed with the statement that staff are adequately training to use available ***best practice guidelines and decision support resources***, and this is another important area where training should be strengthened.

Community capacity, engagement, mobilisation

Key identified barriers to addressing the priority evidence-practice gaps in this area related to:

- ***health literacy and community leadership for quality***

Of all issues covered by the survey, the statements regarding community capacity, engagement and mobilisation elicited the strongest and most consistent views. About 4 out of every five respondents either strongly or partly disagreed with the statements regarding there being good systems to increase the expectation of community members, to strengthen community leadership for quality, to enhance the health literacy of community members, and to build the capability and to support PHC staff to develop effective links to work in partnership with the communities they serve in providing best practice care. The strongest disagreement was expressed in relation to there being good systems to enhance health literacy of community members with regard to quality of care, and to strengthening community leadership with regard to best practice.

Other health centre and system attributes

Views regarding there being sufficient financial support were relatively neutral, with two-thirds of respondents either partly agreeing or partly disagreeing with the statement that there was sufficient ***financial support for best practice in child health*** as relevant to the priority evidence-practice gaps, although about a third of respondents either strongly

agreed or disagreed with this statement. About 60% of respondents either partly or strongly agreed that primary health care facilities are generally of adequate ***size, design and condition***, and that they generally have adequate ***equipment***. A few respondents strongly disagreed with this view.

Views about ***staff functioning effectively in teams*** and being ***clear about their roles*** in relation to other members of the team were relatively neutral, although about 70% partly or strongly disagreed that staff were trained to work effectively in teams.

In relation to ***self-management***, more than half of respondents partly or strongly disagreed with the statement that staff are well trained in the principles of client self-management as relevant to child health, but they were more neutral in their views on the availability of self-management resources relevant to child health. There was a higher level of uncertainty among respondents regarding these statements compared to most other statements.

Respondents were relatively neutral on statements related to ***patient-centred care***, with about two-thirds either partly agreeing or partly disagreeing with the statements about systems to support PHC teams in understanding the needs and aspirations of people living in Aboriginal and Torres Strait Islander communities, to support PHC teams to provide care that is respectful of and responsive to patient preferences, needs, and values, and ensuring that patient values guide clinical decisions, and to train members of PHC teams in providing patient-centred care for people living in Aboriginal and Torres Strait Islander communities.

With regard to ***population health***, about 70% of respondents partly or strongly disagreed with the statements about there being good systems to ensure PHC teams have an understanding of the size, diversity and other key features of their service populations and to apply this knowledge, that they are able to apply the principles of population health, and that they are well trained in the principles of population health. Given the views on lack of capability in population health and the place of population health as a core competency for the heath workforce, it is surprising that this was not more commonly identified as a barrier to addressing the priority evidence practice gaps.

Best practice guidelines and other decision support resources are were seen to be widely available to PHC staff, with about 80% of respondents partly or strongly agreeing with the statement on this point. Respondents were more neutral regarding the adequacy of training, with about 80% either partly agreeing or partly disagreeing that staff are adequately trained to use available best practice guidelines and other decision support resources. It appears that work in this area should shift from development of new guidelines and resources to strengthening training in the use of available resources.

Quality improvement. About 80% of respondents partly or strongly agreed that there are good quality improvement tools available for supporting and improving delivery of best practice care. Over 60% partly or strongly agreed that PHC staff generally believe that CQI data and CQI processes can be used for supporting and improving delivery of best practice care. Respondents' views were more neutral regarding adequacy of training of staff and managers to use or support use of the tools, of managers to support quality improvement (QI) work more generally, and the extent of local ownership by PHC staff of CQI data and processes, with about 80% of respondents either partly agreeing or partly disagreeing with statements on these points. Two respondents commented that support for CQI initiatives was 'very patchy', and that CQI initiatives were constrained by managers seeing 'CQI as extra work and not their job', and by 'external providers who do not give feedback to staff'.

Staff attributes – summary of findings

See Tables E2 and E4 in this appendix for survey data

Across the six areas of priority evidence-practice gaps the domains of staff attributes that were identified most commonly as presenting the ***greatest barriers to improvement*** were:

- ***Skills***
- ***Social / professional role and identity***
- ***Knowledge***
- ***Beliefs about capabilities***
- ***Social influences***

Over 90% strongly or partly agreed that primary health care staff recognise that it is their professional responsibility to provide best practice care for Aboriginal and Torres Strait Islander children. About 70% strongly or partly agreed that they are aware of best practice care, that they know the content and objectives of best practice care, that they strongly intend to provide best practice care, that staff believe that the leaders in Aboriginal and Torres Strait Islander health want care to be provided according to best practice guidelines, and that providing best practice care will have general population health benefits for Aboriginal and Torres Strait Islander people. More than half of the respondents strongly or partly agreed that primary health care staff have the skills to provide best practice care, and that they are confident in their abilities to provide best practice care. Respondents were more neutral with regard to whether staff remembered to provide care according to best practice guidelines, optimism for the future regarding provision of best practice care, their emotional state and their ability to enjoy their work.

Table E1: Responses regarding the extent to which PHC Health Centre and System attributes present barriers or enablers to addressing priority evidence-practice gaps

Data show percentage (number) of respondents in each response category.

		Strongly disagree	Partly disagree	Partly agree	Strongly agree	Don't know	Rating count
Within the socio-political context, there is sufficient financial support (e.g., from local/regional health authorities, government) to support best practice in child health as relevant to the priority evidence-practice gaps		21% (6)	32% (9)	36% (10)	11% (3)	0% (0)	28
Primary health care facilities are generally of adequate, size, design, and condition		7% (2)	31% (9)	52% (15)	10% (3)	0% (0)	29
PHC facilities generally have adequate equipment		14% (4)	21% (6)	41% (12)	21% (6)	3% (1)	29
PHC centres generally have adequate numbers of staff		28% (8)	41% (12)	28% (8)	3% (1)	0% (0)	29
PHC centres generally have appropriate numbers of each of the following categories of staff	Nurses	14.8% (4)	41% (11)	37% (10)	4% (1)	4% (1)	27
	Aboriginal or Torres Strait Islander Health Workers	48% (13)	33% (9)	11% (3)	7% (2)	0% (0)	27
	Doctors	19% (5)	46% (12)	27% (7)	4% (1)	4% (1)	26
	Medical Specialists	25% (7)	29% (8)	29% (8)	14% (4)	4% (1)	28
	Allied Health workers	33% (9)	26% (7)	26% (7)	4% (1)	11% (3)	27
	Administrative Staff	15% (4)	39% (10)	31% (8)	8% (2)	8% (2)	26
There are good systems in place to ensure PHC staff have support from experienced staff, especially when health centres are affected by turnover of staff and staff shortages		37% (10)	33% (9)	19% (5)	7% (2)	4% (1)	27
There are good systems in place to recruit, retain and support each of the following categories of staff (full time or visiting) as integral members of PHC teams	Nurses	23% (6)	35% (9)	31% (8)	4% (1)	8% (2)	26
	Aboriginal or Torres Strait Islander Health Workers	43% (12)	25% (7)	7% (2)	11% (3)	14% (4)	28
	Doctors	24% (6)	32% (8)	20% (5)	12% (3)	12% (3)	25
	Medical Specialists	23% (6)	27% (7)	23% (6)	8% (2)	19% (5)	26
	Allied Health workers	16% (4)	28% (7)	28% (7)	4% (1)	24% (6)	25
	Administrative Staff	26% (7)	19% (5)	30% (8)	0% (0)	26% (7)	27
PHC staff function effectively in teams		14% (4)	31% (9)	41% (12)	14% (4)	0% (0)	29
PHC staff are generally clear about their roles in relation to other members of the PHC		7% (2)	48% (14)	35% (10)	10% (3)	0% (0)	29

	Strongly disagree	Partly disagree	Partly agree	Strongly agree	Don't know	Rating count
PHC staff are trained to work effectively in teams	24% (7)	45% (13)	10% (3)	10% (3)	10% (3)	29
There are good systems in place to support staff development, including the development of knowledge and skills required	18% (5)	39% (11)	25% (7)	18% (5)	0% (0)	28
There are good systems in place to support inter-organisational and intra-organisational Learning	35% (10)	31% (9)	21% (6)	10% (3)	3% (1)	29
Staff are well trained in the principles of client self-management as relevant to child Health	17% (5)	38% (11)	28% (8)	0% (0)	17% (5)	29
There are good self-management resources that are relevant to child health available to PHC staff	17% (5)	28% (8)	31% (9)	3% (1)	21% (6)	29
There are good systems in place to support all members of PHC teams in understanding the needs and aspirations of people living in Aboriginal and Torres Strait Islander communities for the purpose of providing best practice care in child health	22% (6)	37% (10)	33% (9)	4% (1)	4% (1)	27
There are good systems in place to support all members of PHC teams to provide care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions	19% (5)	33% (9)	30% (8)	11% (3)	7% (2)	27
There are good systems in place to train all members of PHC teams in providing patient-centred care for people living in Aboriginal and Torres Strait Islander communities	19% (5)	35% (9)	31% (8)	8% (2)	8% (2)	26
There are good systems in place to ensure PHC teams have a clear understanding of the size, diversity and other key features of their service populations and to apply this knowledge	22% (6)	44% (12)	22% (6)	7% (2)	4% (1)	27
There are good systems in place to ensure PHC teams are able to apply the principles of population health	27% (7)	42% (11)	23% (6)	0% (0)	8% (2)	26
There are good systems in place to ensure PHC teams are well trained in the principles of population health	30% (8)	44% (12)	22% (6)	0% (0)	4% (1)	27
Best practice guidelines and other decision support resources are available to PHC Staff	0% (0)	19% (5)	41% (11)	37% (10)	4% (1)	27
PHC staff are adequately trained to use the available best practice guidelines and other decision support resources	8% (2)	35% (9)	46% (12)	8% (2)	4% (1)	26
The clinical information systems and communication technology in place have the	19% (5)	26% (7)	41% (11)	11% (3)	4% (1)	27

	Strongly disagree	Partly disagree	Partly agree	Strongly agree	Don't know	Rating count
functionality to support provision of best practice care						
PHC staff are trained and effectively supported to use clinical information systems and communication technology for supporting and providing best practice	11% (3)	59% (16)	26% (7)	0% (0)	4% (1)	27
There are good quality improvement tools available in health centres for supporting and improving delivery of best practice care	4% (1)	7% (2)	52% (14)	30% (8)	7% (2)	27
PHC staff are adequately trained to use quality improvement tools and resources for supporting and improving delivery of best practice care	7% (2)	37% (10)	44% (12)	4% (1)	7% (2)	27
Managers are adequately trained to support effective use of quality improvement tools and resources for monitoring and enhancing delivery of best practice care	15% (4)	35% (9)	42% (11)	0% (0)	8% (2)	26
There is good local ownership by PHC staff of CQI data and CQI processes for supporting and improving delivery of best practice care	0% (0)	33% (9)	44% (12)	4% (1)	19% (5)	27
Managers provide clear and appropriate support for effective use of quality improvement tools and resources by PHC staff for monitoring and enhancing delivery of best practice care	4% (1)	44% (12)	33% (9)	4% (1)	15% (4)	27
PHC staff generally believe that CQI data and CQI processes can be used for supporting and improving delivery of best practice	0% (0)	22% (6)	41% (11)	22% (6)	15% (4)	27
There are good systems in place to increase the expectation of community members with regard to best practice care	27% (7)	50% (13)	15% (4)	4% (1)	4% (1)	26
There are good systems in place to strengthen community leadership for quality with regard to best practice.	37% (10)	48% (13)	11% (3)	0% (0)	4% (1)	27
There are good systems in place to enhance the health literacy of community members with regard to best practice care	44% (12)	41% (11)	7% (2)	0% (0)	7% (2)	27
There are good systems in place to build the capability and to support PHC staff to develop effective links to work in partnership with the communities they serve in providing best practice care.	23% (6)	58% (15)	12% (3)	4% (1)	4% (1)	26
There is good clinical and management leadership at the regional, state, national level for supporting and providing best practice	4% (1)	37% (10)	56% (15)	4% (1)	0% (0)	27

	Strongly disagree	Partly disagree	Partly agree	Strongly agree	Don't know	Rating count
There are good networks and regional coordination between parties involved in supporting and providing best practice	11% (3)	37% (10)	44% (12)	4% (1)	4% (1)	27
Managers actively support the development of partnerships across the health sector for the purpose of enhancing delivery of best practice care	11% (3)	26% (7)	48% (13)	4% (1)	11% (3)	27

Table E2: Responses regarding the extent to which PHC Staff attributes present barriers or enablers to addressing priority evidence-practice gaps.

Data show percentage (number) of respondents in each response category.

	Strongly disagree	Partly disagree	Partly agree	Strongly agree	Don't know	Rating count
PHC staff know the content and objectives of best practice care	0% (0)	15% (4)	50% (13)	27% (7)	8% (2)	26
PHC staff are aware of how to provide best practice care for Aboriginal and Torres Strait Islander children	0% (0)	19% (5)	69% (18)	4% (1)	8% (2)	26
PHC staf have the skills to provide best practice care for Aboriginal and Torres Strait Islander children	8% (2)	27% (7)	42% (11)	15% (4)	8% (2)	26
PHC care staff recognise that it is their professional responsibility to provide best practice care for Aboriginal and Torres Strait Islander children	0% (0)	4% (1)	50% (13)	42% (11)	4% (1)	26
PHC staff are confident in their ability to provide best practice care for Aboriginal and Torres Strait Islander children	8% (2)	19% (5)	50% (13)	8% (2)	15% (4)	26
With regard to providing best practice care for Aboriginal and Torres Strait Islander children, primary health care staff are optimistic about the future	12% (3)	31% (8)	39% (10)	8% (2)	12% (3)	26
PHC staff believe that if they provide best practice care for Aboriginal and Torres Strait Islander children, it will have benefits for the health of Aboriginal and Torres Strait Islander people more generally at a population level	0% (0)	19% (5)	23% (6)	42% (11)	15% (4)	26
PHC staff believe that if they provide best practice care for Aboriginal and Torres Strait Islander children, it will have disadvantages for their relationships with Aboriginal and Torres Strait Islander children or their parents/carers	35% (9)	23% (6)	19% (5)	4% (1)	19% (5)	26
How strong is the intention of PHC staff to provide best practice care every day to Aboriginal and Torres Strait Islander children attending their services *Note response options: Not strong at all, Quite strong, Mostly strong, Always very strong, Don't know*	4% (1)	19% (5)	35% (9)	31% (8)	12% (3)	26
How often do PHC staff remember to provide best practice care for Aboriginal and Torres Strait Islander children? *Note response options*: *Never, Occasionally, Often, Always, Don't know*	0% (0)	31% (8)	31% (8)	12% (3)	27% (7)	26
PHC staff believe that when they need to concentrate to provide best practice care for Aboriginal and Torres Strait Islander children, they have no trouble focusing their attention	4% (1)	15% (4)	31% (8)	12 (3)	39% (10)	26
PHC centre staff believe that people of influence (the leaders) in Aboriginal and Torres Strait Islander health want care to be provided according to best practice guidelines	0% (0)	8% (2)	39% (10)	31% (8)	23% (6)	26
Are PHC staff who provide care for Aboriginal and Torres Strait Islander children currently able to enjoy their normal day-to-day work activities? *Note response options: Never, Occasionally, Often, Always, Don't know*	0% (0)	19% (5)	46% (12)	4% (1)	31% (8)	26

	Strongly disagree	Partly disagree	Partly agree	Strongly agree	Don't know	Rating count
Do PHC staff who currently provide care for Aboriginal and Torres Strait Islander children feel unhappy, anxious or depressed about their work? *Note response options: Never, Occasionally, Often, Always, Don't know*	0% (0)	27% (7)	39% (10)	0% (0)	35% (9)	26

Table E3: Health Centre and System attributes presenting the greatest barriers to improvement for each of the areas of priority evidence-practice gaps

Data show number of respondents who identified each attribute as a major barrier to improvement in each area

Health centre and system attributes	Areas of priority evidence-practice gaps					
	Immunisations	***Clinical examinations***	***Advice and brief interventions on common risks to health***	***Enquiry and advice on use of alcohol, tobacco and other drugs***	***Follow up abnormal clinical findings and identified risks to health***	***Health centre systems***
Financing and resources	2	3	7	3	6	14
Facilities/ equipment	4	5	2	2	4	7
Staffing / workforce	8	9	10	7	11	8
Staff/ workforce support, recruitment, and retention	5	8	12	11	14	14
Teamwork	3	6	5	5	11	9
Training and development	9	8	10	9	7	6
Self-management	1	2	6	6	3	1
Patient-centred area	0	1	5	3	4	2
Population health	6	2	7	8	3	4
Decision support	2	3	8	6	7	2
Clinical information systems and communication technology	8	12	7	6	17	14

Health centre and system attributes	Areas of priority evidence-practice gaps					
	Immunisations	***Clinical examinations***	***Advice and brief interventions on common risks to health***	***Enquiry and advice on use of alcohol, tobacco and other drugs***	***Follow up abnormal clinical findings and identified risks to health***	***Health centre systems***
Quality improvement	5	6	4	5	5	7
Community capacity, engagement, mobilisation	9	7	9	9	11	4
Leadership and management	4	7	8	8	6	17

Table E4: Staff attributes presenting the greatest barriers to improvement for each of the areas of priority evidence-practice gaps (number of respondents who identified each attribute as a major barrier to improvement in each area)

Staff attributes	Areas of priority evidence-practice gaps					
	Immunisations	***Clinical examinations***	***Advice and brief interventions on common risks to health***	***Enquiry and advice on use of alcohol, tobacco and other drugs***	***Follow up abnormal clinical findings and identified risks to health***	***Health centre systems***
Knowledge	6	7	10	9	13	9
Skills	8	14	13	11	14	9
Social / professional role and identity	8	9	11	12	14	8
Beliefs about capabilities	6	10	9	11	7	5
Optimism	1	0	5	5	1	3
Beliefs about consequences	3	3	10	8	7	5
Intentions	1	2	3	3	4	2
Memory, attention and decision processes	4	6	7	6	8	4
Social influences	3	4	10	14	8	7
Emotion	4	1	5	7	3	4

Appendix F – Evidence brief

Improving the quality of Aboriginal and Torres Strait Islander primary health care:

What the research shows

This draft evidence brief has been prepared for the 'Engaging Stakeholders in Identifying Evidence-Practice Gaps and Strategies for Improvement in Primary Health Care (ESP)' project. You are invited to provide feedback to refine the brief, using the online project questionnaire**.**

The Aboriginal and Torres Strait Islander primary health care (PHC) sector has embraced continuous quality improvement (CQI) as a way of improving the overall quality of care delivered to Aboriginal and Torres Strait Islander Australians, in order to **improve health outcomes**. This evidence brief presents an overview of findings from local and international research about **barriers, enablers and strategies** for using CQI to make improvements in PHC quality.

Local research has reflected the diversity and complexity of Aboriginal and Torres Strait Islander PHC delivery – geographic diversity, remote-rural-urban health care settings and community-controlled, government, non-government or private providers. Data have been gathered in settings in which political, cultural, social, educational, technological, emotional and ideological factors interact in complex ways. Despite this diversity and complexity, there are some common messages from the research findings, which are supported by international literature about CQI.

Who is this evidence brief for?

Primary health care policy makers, managers, clinical governance groups. The information will also interest providers and practitioners.

Key messages

- Don't wait for perfect data before commencing CQI. Even where good quality data on care processes are not consistently available at the start, the use of data in CQI cycles can act as a catalyst for improved data quality. Meanwhile, invest in developing good health centre systems and staff skills in using data.
- Emphasise use of CQI data for improving care for patients and populations. Practical use of CQI data helps to motivate clinicians and managers to participate in CQI.
- Design improvement strategies to suit local conditions – or adapt strategies that are working successfully in similar settings.
- Build on staff skills and strengths to implement improvement strategies. Share success stories and information about CQI between health centres to enable learning between peers.
- Work on developing a common vision and culture for CQI. Address any underlying organisational leadership and management issues that may detract from implementing CQI.
- Empower Aboriginal and Torres Strait Islander staff and managers to lead, participate in and promote CQI, to ensure improvement strategies match local population and community needs.
- Invest in developing leadership for CQI at each level of the system.
- Use system-wide approaches to integrate CQI across the whole system. Use CQI processes to achieve large-scale change.

Don't wait for perfect data before commencing CQI. Even where good quality data on care processes are not consistently available at the start, the use of data in CQI cycles can act as a catalyst for improved data quality. Meanwhile, invest in developing good health centre systems and staff skills in using data.

In PHC generally, clinical information systems are often poor and fragmented. Policy makers may therefore find it difficult to access consistent and broad scale data on relative need, priorities, performance and quality of care. In addition, there is limited focus and capability at various levels of the system to manage, interpret and use data for the purpose of improving system performance[1], and skills in the use of data to inform improvements in service delivery appear highly variable across all levels of the health system[2,3].

The quality of data is important. Technical advancements (electronic patient information and recall systems, tools, guides, practice standards) can make CQI processes easier and quicker, but if CQI data are perceived to be inaccurate it will not be credible[4,5]. At the health centre level, there is evidence that the quality of health system data can be improved by staff carrying out audits of client records[4].

Competing pressures and perceptions about unreasonable workloads, poor resources and support are often seen as barriers to CQI in Aboriginal and Torres Strait Islander health centres. Staffing constraints influence capacity to deliver guideline-scheduled care – or to make improvements in care. Health centres able to sustain performance in the face of high staff turnover tend to have strong regional support systems together with commitment to good health centre systems[6].

Emphasise use of CQI data for improving care for patients and populations. Practical use of CQI data helps to motivate clinicians and managers to participate in CQI.

For CQI to work successfully, staff need to value the use of data for improvement purposes and believe they can influence change[6]. Local staff increase their support for CQI when they see demonstrated improvements in care and clinical outcomes for clients. Hands-on auditing and participation in feedback and planning sessions by nurses and Aboriginal and Torres Strait Islander practitioners also increases staff support[2,4].

Many staff in Aboriginal and Torres Strait Islander PHC have enthusiasm and a sense of urgency to improve health outcomes[4]. In remote areas in particular, staff may also have a sense of burden and hopelessness (due to long work hours and lack of apparent improvement in health and social determinants) that can lead to clinical inertia. Quality improvement initiatives have been demonstrated to boost morale in these contexts, because they can demonstrate that the hard work is producing results[4,6].

Design improvement strategies to suit local conditions – or adapt strategies that are working successfully in similar settings.

There is strong evidence that improving the quality of care requires a good match between the conditions or context for care delivery, and the strategies used to achieve improvement[7]. Decision makers need to consider **what works, for whom, under what conditions** when planning for improvement. A one-size-fits-all approach is unlikely to be successful. However, successful strategies for improvement may require taking on the core elements of a proven product or strategy and adapting the way it is presented or used locally[8].

Adaptability is important in large-scale application of strategies for improvement; however the underpinning logic of a new product or strategy should be made explicit, so implementers understand the core that should not be compromised. In addition, problem-solving suggestions may help

implementers make adaptations for the local context[9]. This approach may help policy makers and program managers to meet the dual challenges of supporting large-scale implementation of best practice, while also enabling local decision making and tailoring to specific needs.

Build on staff skills and strengths to implement improvement strategies. Share success stories and information about CQI between health centres to enable learning between peers.

Strategies for improvement need to build on the skills and attributes of the existing Aboriginal and Torres Strait Islander PHC workforce. Staff need to be involved in completing the latter steps of CQI cycles in order to strengthen the interpretation of data, but also to go beyond focusing only on data or specific indicators to define and act on systemic problems, including through group interpretation and community consultation[3]. The ability to work and communicate effectively in cross- and inter-cultural settings is a critical component of the skills and attributes needed to achieve improvements[10,11].

CQI networks and training events are important opportunities to build relationships, share CQI knowledge and learn practical information about 'what works' from others[2,3]. The remote location and geographic dispersion of many health centres serving Aboriginal and Torres Strait Islander populations mean that staff tend to value opportunities to connect through CQI and to form CQI networks[6].

How evidence was identified

We drew evidence from the ABCD program of work and other publications on CQI in Aboriginal and Torres Strait Islander PHC, then extended our search to include relevant national and international literature about implementation of CQI and innovations in PHC.

Work on developing a common vision and culture for CQI. Address any underlying organisational leadership and management issues that may detract from implementing CQI.

Effective and sustained quality improvement needs a shared understanding of the purpose of CQI and a common vision shared by multiple stakeholders. CQI needs to be embedded into the day to day work of front-line health workers, clinical leaders and managers through routines and relationships that function across and between organisations[4].

What helps to develop a culture of quality improvement?

- Top and middle managers aligned in their CQI vision and goals.
- Commitment to workforce development, with management and staff participation in CQI training at all levels of an organisation.
- Strong team orientation and 'no blame' culture.
- Active management of CQI (e.g., dedicated CQI facilitators, regular progress reviews)
- Use and promotion of small scale projects that demonstrate change is possible and which, if successful and appropriate, may be scaled up across the health system.
- Willingness to embrace change and initiative[4,5,12,13].

Organisations with a strong CQI culture treat barriers such as funding or staff shortages as motivators for CQI. Instead of being viewed as 'extra work', CQI is seen as 'a way of working smarter and making jobs easier'. Disruptions such as restructuring or disease outbreaks can slow CQI work, but can also be used as a platform to apply CQI approaches in responding to the issue[13].

Where there is a culture of CQI, staff values are more likely to align with best practice in Aboriginal and Torres Strait Islander PHC[1].

Where there is poor management, uncertainty and confusion over roles, staff are discouraged and place less value on their data. Interventions to tackle unfavourable service delivery conditions need to be developed alongside CQI implementation[6].

Poor support for collaboration for CQI can lead to competitiveness, fatigue, staff who feel disillusioned with CQI and lack of cooperation. Identifying health centres with similar conditions and working to build adequate trust for networking might help staff believe they can influence change[6].

Empower Aboriginal and Torres Strait Islander staff and managers to lead, participate in and promote CQI, to ensure improvement strategies match local population and community needs.

Aboriginal and Torres Strait Islander leadership in CQI is most important[4,5,14], for example, through active involvement of community health boards or Aboriginal and Torres Strait Islander staff and managers committed to CQI. This leadership for CQI can help ensure the 'cultural, linguistic and practical relevance of health care and population health services'[14].

When planning or implementing strategies for change, the risk of overlooking cultural and historical influences on Aboriginal and Torres Strait Islander health care contexts is reduced where Aboriginal and Torres Strait Islander health practitioners actively lead or are engaged in CQI initiatives. Aboriginal and Torres Strait Islander health practitioners' involvement in clinical care and CQI processes is important in influencing the extent to which CQI processes result in improvements in delivery of guideline-scheduled services[15].

In Aboriginal and Torres Strait Islander settings the credibility of a strategy for improvement is likely to be influenced by who makes the decision to adopt a particular strategy, and how that decision is made[10,16].

Invest in developing leadership for CQI at each level of the system.

Leadership for improving the quality of care is needed at all levels of the health system to guide, support and facilitate CQI efforts[4,5,7,13].

Leaders for CQI are not necessarily in management roles; 'distributed' leadership with leadership functions vested in 'a set of people who can collectively perform them' is effective[12]. Shared responsibility and control of CQI by local staff as well as area/regional and jurisdiction managers is important for successful and sustainable CQI in health systems[5,17].

The attitudes of leaders and managers within the health system towards CQI can influence how clinic staff respond[4,13]. If management or reporting requirements are focused more on using data for accountability than to drive improvements in care, other managers and staff are likely to be suspicious of CQI and perceive it as 'checking up'[3-5].

Use system-wide approaches to integrate CQI across the whole system. Use CQI processes to achieve large-scale change.

The Australian health system operates at three levels; the service and health centre level (individual organisations), the regional level (regional and state/territory health bodies, community-controlled peak bodies, general practice networks), and the national level (nationwide policies and programs, accreditation and regulatory regimes)[18]. At each level, multiple factors influence the context in which improvement might take place. What happens at each level is partly dependent on, and influences, what happens at other levels. So achieving large-scale improvement in the quality of care is likely to require specific attention at each level of the health system[7].

Mechanisms needed to support improvement at the upper levels of the system are often overlooked. Large-scale change may require a package of interventions and long term 'institution-building' for regional and national level organisations to adapt to new ways of functioning[19].

Building a system wide and sustainable approach to CQI across Aboriginal and Torres Strait Islander PHC centres requires certain and sustained funding[3,5]**.** Dedicated funding has resulted in measurable improvement outcomes in service delivery, often achieved by allocating responsibility for CQI processes to a particular staff member and/or establishing regional quality systems[5,6,15].

Resources invested in CQI facilitator roles enable health centres to move to a higher level of capability and capacity in CQI[3].

Applied system-wide, integrated CQI uses multi-site, multi-faceted approaches that reflect the enablers described by the evidence and aim to achieve change at various levels of the system. In successfully integrated CQI models, CQI programs are: part of core business (rather than an add-on or one-off project); engage front-line workers, clinical leaders, and managers in CQI processes; distribute leadership for CQI across the whole

health system; use CQI processes and tools to address multiple enablers of good quality care, and; use data from different stakeholders at different levels of relevant organisations to understand and inform broader system level performance[17,20,21].

A **Partnership Learning Model**[20] illustrates 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. In its development and application through the ABCD National Research Partnership (2010-2014), the model showed potential for achieving wide-scale engagement of researchers, practitioners, managers, and policy makers in efforts to scale-up and spread effective quality improvement programs. It provides mechanisms to build or strengthen the capacity of a health system to continually work towards improving its performance.

For more information

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Appendix G – Strategies for improvement

For each priority evidence-practice gap, we have presented the new or refined general strategies suggested by respondents, followed by specific actions suggested by respondents to address the most common barriers and enablers identified from Phase 2.

Immunisations

Respondents proposed the following new or refined strategies to build on enablers and overcome barriers to improving systematic recording of all immunisations in child health records, and the delivery of immunisations scheduled for delivery at birth and at 2 years and older.

New or refined general strategies to improve priority evidence- practice gaps in immunisation practice

1. Share electronic records to enhance efficiency and completeness of immunisation records.
2. Staff training particularly in immunisation and community engagement and accurate data entry of immunisation.
3. Ongoing improvements in clinical information systems with data entry and establishment of reminder and follow-up mechanisms to encourage patient attendance and delivery of care.
4. Systems to engage with the community to educate and reduce the number of missed immunisations.

With regard to the strategies identified above, respondents identified the following key supporting actions to address specific barriers and enablers to improve immunisation practice (Table G1).

Table G1: Actions proposed by respondents to improve priority gaps in immunisation practice

	Barriers and enablers	***Actions proposed to address each barrier and enabler***
Health centre and system	Training and development	• Provide access to training for staff involved in health care (including allied health) so they can educate patients and community on importance of immunisation • Increase number of immunisers through providing funding for staff to attend training – including short term staff attending remote clinics • Develop staff to be immunisation/child health champions in community • Training of staff on data entry and use of data

	Barriers and enablers	***Actions proposed to address each barrier and enabler***
Health centre and system	Community capacity, engagement and mobilisation	• Dedicated funding and staff, particularly employment of local workers and AHWs, as health promotion leaders to strengthen links with community • Establish mobile immunisation units to service and educate communities on the benefits of wide-scale immunisation programs • Use innovative ways to educate community on importance of immunisation such as real life case studies, staff relating experiences of their own or their children's immunisation, using tablets and smart phone technology to share message etc. • Support families to complete forms to allow access to school-based immunisations

	Shortages of particular types of staff	• Dedicated child health staff to focus on children who have missed immunisations. • Provide adequate remuneration to secure staff • Training for Aboriginal health staff to provide immunisations • Provide training/traineeships in child health to develop workforce • In remote areas, staff should be trained to become 'all-rounders', i.e. see both adults and children • Increase use of tele-health services where possible • Encourage sharing of staff between primary health care facilities to address shortages in one area
	Clinical information systems and communication technology	• Ensure ongoing funding and dedicated time for staff to use and maintain clinical information systems • Continue to work towards electronic transfer of records and better connectivity between systems and service providers – this is particularly important given the mobility of families • Establish an immunisation 'hotline' to provide staff with immediate advice on immunisations due for clients
Staff	Skills	• Management support to undertake skills audit and provide training where needs are identified • Include professional development and training activities as part of performance appraisals • Provide specific immunisation training, use of clinical information systems and community development/engagement courses • Provide access to local training
	Social / professional role and identity	• Increase recognition of staff professions and their value in improving health of Aboriginal & Torres Strait Islander children • Encourage child health nurses to focus on opportunistic immunisations • Increase all staff awareness of immunisation as a priority and increase their support for staff who work in these roles • Promote continuous quality improvement activities as everybody's business and promote self-efficacy among professionals across the health system

Type of support to facilitate development and implementation of proposed actions

Respondents indicated they need the following types of support from colleagues and managers, to successfully implement the proposed strategies.

- Provide dedicated and continued core funding towards child health (not short-term funding arrangements) and ensure there is an understanding of barriers to delivery, not just outputs and outcomes.
- Increase understanding of the importance of community engagement and roles of AHW.
- Actively support the development of a system for interagency working including development of clear and consistent protocols and guidelines.

Respondents offered the following types of support to assist others across the sector to implement proposed actions.

- Participate in team-based quality improvement discussions and continue efforts to engage with clinicians and management, using data to guide practice priorities.

- Support implementation of specific actions.
- Network with other health professionals to share information and learn from other experiences.
- Communicate with other child health providers on service provision and coordination (linking care).
- Improve community engagement and educate on the importance of child health care.

Clinical examinations and follow-up of abnormal findings

Respondents proposed the following new or refined strategies to build on enablers and overcome barriers to improving systematic monitoring and recording of key measures, specifically weight, haemoglobin and developmental milestones and improve recording and follow-up action for growth faltering, anaemia, chronic ear infections, developmental delay, and risks related to the domestic environment, financial situation, housing and food security.

New or refined general strategies to improve priority evidence-practice gaps in clinical examinations and follow-up of abnormal findings

1. Promote more effective use of clinical information systems to facilitate recalls and reminders for follow-up processes across multiple providers – this includes implementing ongoing training and support for data entry.
2. Promote a culture of preventive health and include public health level interventions such as helping families develop strategies to reduce risk.
3. Less siloed service delivery - build capacity of all primary health care professionals in child health.
4. Improve interagency coordination in service provision to ensure comprehensive delivery in a limited resource environment and prevent duplication of services.
5. Improve processes around reminders and follow-up, and clarity about staff responsibilities for this.

The key supporting actions proposed by stakeholders to address the identified barriers and enablers are outlined in Table G2.

Table G2: Proposed actions by respondents to improve priority evidence-practice gaps in clinical examinations and follow-up of abnormal findings

	Barriers and enablers identified in Phase 2	***Actions proposed for addressing each of the identified barriers and enablers***
Health centre and system	Clinical information systems and communication technology	• Share information systems across multiple providers • Improve recording and consistency of data entry through staff training on clinical information system use – in particular, training and use of uniform data specifications so output is standardised and more useful • Encourage visiting medical staff to use the health centre clinical information system • Improve use of recall and reminder systems within clinical information systems so that abnormal findings can be appropriately addressed

	Barriers and enablers identified in Phase 2	***Actions proposed for addressing each of the identified barriers and enablers***
Health centre and system	Shortages of particular types of staff	• Develop staff capability to provide interventions for children identified at risk to reduce reliance on specialised allied health staff • Increase interagency working to counteract staff shortages - requires improvement in cross-agency co-ordination so that families and children don't have to go through multiple in-take systems • Strengthen human resource processes to avoid risk of staff shortage • Provide training/traineeships to develop workforce • Continued use of data to highlight areas of need and targeted recruitment • Identification of leaders to co-ordinate care
	Training and development	• Specific training for PHC staff on how to intervene and help children identified as being at risk, early identification of risk, and what to do next for specific risk indicators • Dedicated funding and support for staff to undertake training and development • Continued use of data to highlight areas of need
	Staff / workforce support, recruitment and retention	• Training and sharing of skills across agencies including rotational placements to increase staff understanding and familiarisation of different services • Develop and support Aboriginal and Torres Strait Islander health workforce • Provide appropriate remuneration to secure and retain staff • Strengthen human resource processes, including capacity building, to enable recruitment and retention of staff and the empowering of staff • Continued use of data to highlight areas of particular need
Staff	Skills	• Build skills in CQI and use of clinical information systems • Accessible training that addresses gaps in knowledge • Training for AHW and nursing staff to increase understanding of each other's skill sets and encourage trans disciplinary practices
	Beliefs about capabilities	• CQI feedback of audit data and benchmarking to improve staff confidence • Training and support • Improve understanding and recognition of each other’s roles and how each fits within the team • Appropriate remuneration to enhance feeling of value

Type of support to facilitate development and implementation of proposed actions

Respondents indicated they need the following types of support from colleagues and managers, to successfully implement the proposed strategies.

- Foster and develop collaborative relationships with other service providers.

- Strengthen human resource and staff appraisal processes and empower staff through flexible work practices such as rotational placements.
- Management should support and promote CQI processes throughout the organisation.
- Develop better understanding of the limitations of clinical information systems and their sharing across agencies.

Respondents offered the following types of support to assist others across the sector to implement proposed actions.

- 'Lead by example' in implementing best practice care. Utilise guidelines and link in with relevant agencies. Reflect on care provision, review gaps and target areas for improvement.
- Encourage staff to work more flexibly, for example, through trans-disciplinary work practices or rotational placements.
- Attend and provide input into team meetings and provide input into the development of local strategies
- Work with the community and facilitate the dissemination of information.

Advice and brief interventions

Respondents proposed the following new or refined strategies to build on enablers and overcome barriers to improving delivery and recording of advice on common and important risks to child health. These risks include nutrition, passive smoking, infection prevention and hygiene, injury prevention, domestic/social and environmental conditions (including food security, financial resources, housing conditions, social and family support), and child development (including physical and mental stimulation, physical activity, social and emotional wellbeing, education progress).

New or refined general strategies to improve priority evidence-practice gaps in advice on common risks to child health and brief interventions

1. Collaboration between management and clinical staff to address areas of service need (as identified by CQI processes).
2. Improve processes to support provision of brief interventions including the identification of referral services to follow-up on risks identified.
3. Up-skill staff on best practice guidelines and facilitate software updates to align clinical information systems with best practice.
4. Use latest technology available with culturally appropriate communication and media to enhance provision of advice and brief interventions to community.

The key supporting actions proposed by stakeholders to address the identified barriers and enablers are outlined in Table G3.

Table G3: Proposed actions by respondents to improve priority evidence-practice gaps in advice and brief interventions

	Barriers and enablers identified in Phase 2	***Actions proposed for addressing each of the identified barriers and enablers***
Health centre and system	Staff / workforce support, recruitment and retention	• Remote area incentives to encourage staff to stay for longer periods • Ensure staff levels maintained while staff are on leave • Advocate for more comprehensive PHC model including provision of social support • Training and support for staff to provide brief interventions

	Shortages of particular types of staff	• Up-skill staff on provision of brief interventions • Make available qualified staff to provide support on site or over phone/internet similar to that provided for acute care and medical emergencies
	Training and development	• Training in public health, health promotion, self-management and brief interventions
Staff	Skills	• Management to reflect on data to ensure staff skill mix (where possible) is in line with community needs • Use qualified staff on call to support and supplement skill shortages in specific areas • Improve understanding of alternative ways to obtain information from and provide information to families
	Social / professional role and identity	• Encourage staff to make effective use existing social and professional networks • Recognise staff roles in empowering communities

Type of support to facilitate development and implementation of proposed actions

Respondents indicated they need the following types of support from colleagues and managers, to successfully implement the proposed strategies.

- Improve responsiveness of health system to address needs of community.
- Provision of adequate resources to match service needs.
- Systematic and collaborative approach to workforce training including cross-agency delivery of training.
- Support staff education on how to deliver brief interventions and discuss sensitive issues in a non-confrontational manner.

Respondents offered the following types of support to assist others across the sector to implement proposed actions.

- Development of systems, such as medical record templates, within the health centre to encourage delivery and recording of brief interventions.
- Continue to raise awareness of the advantages of using data to highlight areas of need and guide practices.

Enquiry and advice on use of alcohol, tobacco and other drugs

Respondents proposed the following new or refined strategies to build on enablers and overcome barriers to improving enquiry - and recording of enquiry - regarding use of ATOD, and discussion and/or advice provided on risks to health of children in the relevant age ranges.

New or refined general strategies to improve priority evidence-practice gaps in enquiry and advice on use of ATOD

1. Provide training to develop capacity of staff to engage with families and children on sensitive discussions in a way that is safe and effective.
2. Facilitate access to specialised ATOD staff to provide support on development of education and cessation programs within schools and community.
3. Support work of AHWs work in community engagement, education and development.

The key supporting actions proposed by stakeholders to address the identified barriers and enablers are outlined in Table G4.

Table G4: Proposed actions by respondents to improve priority evidence-practice gaps in enquiry and advice on use of ATOD

	Barriers and enablers identified in Phase 2	***Actions proposed for addressing each of the identified barriers and enablers***
Health centre and system	Staff / workforce support, recruitment and retention	• Raise awareness with management about community needs and associated deficiencies within the system • Provision of training and support to staff in identified areas of need
	Training and development	• Improve competency of staff to engage families and children in these types of discussions • Specific training on promoting self-management
	Community capacity, engagement and mobilisation	• Educate communities in culturally appropriate ways about importance of starting discussions with children at an early age on issues such as ATOD • Make available specialised ATOD support to work with onsite staff to develop and provide appropriate health promotion programs at school and in community
	Social influences	• Increase appropriate media campaigns targeting ATOD issues and their effect on individuals and communities • Engage communities in addressing these issues
Staff	Social / professional role and identity	• Actively promote and support staff in client cessation programs if required
	Skills	• Specific training on brief interventions and self-management
	Beliefs about capabilities	• Training and support for staff to undertake these types of discussions and provide advice on best ways to document discussions

Type of support to facilitate development and implementation of proposed actions

Respondents indicated they need the following types of support from colleagues and managers, to successfully implement the proposed strategies.

- Provision of easy to understand guidelines based on best practice evidence around these risk factors to effectively communicate with health staff and community about 'why' these issues are important.

Respondents offered the following types of support to assist others across the sector to implement proposed actions.

- Promote a team based approach to identification of risk factors. It is a responsibility of all areas of service delivery.
- Promote CQI efforts.

Health centre systems

Respondents proposed the following new or refined strategies to build on enablers and overcome barriers to strengthening systems in health centres with low scores across the range of system components and in particular, systems for effective links between health centres and communities, and systems to support regional health planning.

New or refined general strategies to improve priority evidence-practice gaps in health centre systems

1. Improve continuity of care for children and families by having a designated central care agency (such as the PHC centre or GP provider) acting as a coordination point for all service provision including links to hospitals and child protection.
2. Reduce siloed approaches to service delivery through extension of multipurpose health care services and interagency models of care.
3. Support training in all aspects of child health
4. Use of CQI processes to address gaps in best practice care.

The key supporting actions proposed by stakeholders to address the identified barriers and enablers are outlined in Table G5.

Table G5: Proposed actions by respondents to improve priority evidence-practice gaps in health centre systems

	Barriers and enablers identified in Phase 2	*Actions proposed for addressing each of the identified barriers and enablers*
Health centre and system	Leadership and management	• More understanding about importance of investment in health centre system development • Management to support processes to identify gaps in the system and act on potential solutions • Enable staff to easily implement new ideas
	Financing and resources	• Promote use of data to advocate to funding bodies about community needs at all levels (local, regional, national) • Provision of dedicated funding with robust evaluation • Explore new funding models to improve interagency working
	Staff / workforce support, recruitment and retention	• Encourage staff to undertake multi-agency placements to improve retention • Reduce bureaucracy of recruitment as processes not always suitable to local needs, especially recruitment of local staff
	Clinical information systems and communication technology	• Improve speed of IT systems in remote areas to enable efficient documentation of treatment and sharing of information • Dedicated training in use of clinical information systems
Staff	Knowledge	• Develop systems and increase staff ability to share knowledge about clients across relevant agencies to prevent families going through multiple intake processes • Develop skills in CQI and use of local clinical information systems
	Skills	• Improve sharing of training across agencies to ensure local skills are shared and accessed

Type of support to facilitate development and implementation of proposed actions

Respondents indicated they need the following types of support from colleagues and managers, to successfully implement the proposed strategies.

- Dedicated on-going funding with robust evaluation of health service delivery.
- Drive development of systems for cross-agency working through consultation with on the ground clinicians and health workers who understand the real issues.

- Funding and support for continued development of IT systems and communication technology to make service delivery more efficient and effective.

Respondents offered the following types of support to assist others across the sector to implement proposed actions.

- Play a part in developing local interagency systems for collaborative working.
- Provide leadership, training and encouragement to staff, using data reports and positive reinforcement of benefits of quality holistic care.