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“At the grass roots level it’s about sitting down and talking”: Exploring quality improvement through case studies with high-improving Aboriginal and Torres Strait Islander primary health care services

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Manuscripts

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4 1 **“At the grass roots level it’s about sitting down and talking”**: Exploring
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6 2 **quality improvement through case studies with high-improving Aboriginal**
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9 3 **and Torres Strait Islander primary health care service**

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3 **43 Abstract:**
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6 **44 Objectives:** Improving the quality of primary care is an important strategy to improve
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8
9 **45** health outcomes. However, responses to Continuous Quality Improvement (CQI) initiatives
10
11 **46** are variable, likely due in part to a mismatch between interventions and context. This
12
13
14 **47** project aimed to understand the successful implementation of CQI initiatives in Aboriginal
15
16 **48** and Torres Strait Islander health services in Australia through exploring the strategies
17
18
19 **49** utilised by “high-improving” Indigenous primary health care (PHC) services.
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21

22 **50 Design, setting and participants:** This strengths-based participatory observational study
23
24 **51** used a multiple case-study method with six Indigenous PHC services in northern Australia
25
26
27 **52** that had improved their performance in CQI audits. Interviews with health care providers,
28
29
30 **53** service users and managers (N=134), documentary review and non-participant observation
31
32 **54** were used to explore implementation of CQI and the enablers of quality improvement in
33
34 **55** these contexts.
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37 **56 Results:**
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40 **57** Services approached the implementation of CQI differently according to their contexts.
41
42
43 **58** Common themes previously reported included CQI systems, teamwork, collaboration, a
44
45
46 **59** stable workforce and community engagement. Novel themes included embeddedness in
47
48
49 **60** the local historical and cultural contexts, two-way learning about CQI, and the community
50
51 **61** “driving” health improvement. These novel themes were implicit in the descriptions of
52
53
54 **62** stakeholders about why the services were improving. Embeddedness in the local historical
55
56
57 **63** and cultural context resulted in “two-way” learning between communities and health
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59
60 **64** system personnel.

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3 65 **Conclusions:**
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6 66 Practical interventions to strengthen responses to CQI in Indigenous primary health care
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9 67 services require recruitment and support of an appropriate and well prepared workforce,
10
11 68 training in leadership and joint decision-making, regional CQI collaboratives and workable
12
13
14 69 mechanisms for genuine community engagement. A “toolkit” of strategies for service
15
16 70 support might address each of these components, although strategies need to be
17
18
19 71 implemented through a two-way learning process and adapted to the historical and cultural
20
21 72 community context. Such approaches have potential to assist health service personnel
22
23
24 73 strengthen the PHC provided to Indigenous communities.
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27 74
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30 75 **Strengths and limitations of the study**
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- 33 76 • This study used a participatory approach and mixed methods to gather rich,
34
35 contextually-informed data from each of our six case-study sites.
36 77
37
38 78 • This approach addresses an identified gap in the literature – that of linking the
39
40 effectiveness of CQI interventions to the contexts in which they operate.
41 79
42
43 80 • Involvement of service providers, community-controlled peak bodies and
44
45 government health departments enhances opportunities for translation into policy
46 81
47 and practice.
48 82
49
50 83 • Through working in-depth with six Indigenous primary health care services in
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52 northern Australia, there may be limitations in transferability of our findings to other
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54 settings.
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- 86 • However, diversity in population size, remoteness and governance models amongst
87 our sites and the relationship to findings elsewhere suggest that our findings may
88 have applicability in a range of under-served health care settings.

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90 **Background**

91 Achieving improvement in the quality of primary care on a broad scale is a challenge worldwide,
92 with evidence that there is a substantial gap between best practice as defined by clinical practice
93 guidelines and actual practice (1). Success in the implementation of complex interventions to
94 improve the quality of primary care is often patchy, with a 2016 systematic review finding that the
95 “fit” between the intervention and the context was often critical in determining intervention
96 success, although few studies reported sufficiently on the interaction between context and other
97 factors (2). Olivier de Sardan (2017) suggests that often interventions aimed at quality improvement
98 “travel” from country to country and are applied largely without consideration of the health system
99 context, thus limiting their effectiveness (3). Primary health care (PHC) services are themselves
100 adaptive systems and also operate within the larger complex adaptive health system (4).

101 Improving the quality of PHC provided to Aboriginal and Torres Strait Islander Australians is an
102 essential part of strategies to overcome Indigenous disadvantage (5). Although Continuous Quality
103 Improvement (CQI) processes appear to be successful overall in improving quality of care in primary
104 care (6), including in Aboriginal and Torres Strait Islander primary health care services (hereafter,
105 Indigenous PHC services; 7), there is very wide variability in response to these initiatives (8).
106 Understanding this variability and the systems and implementation factors that affect it is an
107 important step in improving the effectiveness of CQI on a broader scale, yet limited research in the
108 Indigenous PHC sector has previously addressed this issue.

109 A range of Indigenous PHC centres, both Aboriginal and Torres Strait Islander Community Controlled
110 Health Services (ACCHS) and government health services, provide PHC for Indigenous people.
111 However, the quality of care provided by such services, and the health outcomes achieved, vary
112 significantly between services (8). In response to CQI, some services consistently achieve relatively
113 high performance, apparently due to interplay between strong and stable organisations, good
114 governance and clinical leadership (9), which together with a supportive community and policy

1
2
3 115 context facilitate perserverance with participation in CQI (7). In contrast, some services show limited
4
5 116 improvement (sometimes none), due to a range of interwoven implementation, resourcing and
6
7 117 community contextual factors, often the inverse of those underlying high performance. A growing
8
9
10 118 body of literature suggests common factors which facilitate positive responses to CQI initiatives.
11
12 119 These include: (a) whole of organisation culture and engagement (2, 10); (b) a health workforce that
13
14 120 is sufficient, stable and skilled (11-13); (c) strong data systems (14); (d) supportive linkages and
15
16 121 networks with the community and the broader health system (15, 16); and (e) stable, long term
17
18 122 funding with a supportive policy framework (9, 17). What is poorly understood, but so important for
19
20 123 Indigenous services, is how these systems factors interact with the specific socio-cultural and
21
22 124 historical contexts of Indigenous communities to affect quality improvement and how variability in
23
24 125 responses towards higher performance trajectories might be enhanced (2, 18).
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30 126 We conducted a project to explore this variability using a strengths-based approach, to learn from
31
32 127 Indigenous PHC services successful in improving the quality of care provided in response to CQI. This
33
34 128 paper reports how quality improvement is operationalised at these successful ("high-improving")
35
36 129 Indigenous PHC services, including the adaptation of strategies to cultural and historical contexts,
37
38 130 and systems factors that were important in producing the outcomes.
39

40 131 **Methods**

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43 132 A multi-case comparative case study design using quantitative and qualitative data was employed
44
45 133 with six case study sites in remote northern Australia and the Torres Strait. A participatory and
46
47 134 strengths-based approach was used to investigate how CQI worked at these high-improving services
48
49 135 and how systems factors affected CQI processes and outcomes. This is an appropriate design to
50
51 136 investigate systemic health system patterns surrounding CQI in the dynamic social setting of
52
53 137 Indigenous PHC services (19).
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58 138 *Patient and public involvement*

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3 139 This study arose and questions were refined from discussions within a community-of-practice of
4
5 140 Aboriginal health peak bodies, services and researchers. Service representatives and community
6
7 141 members were included in a Learning Community, to guide and steer the conduct of the project.
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9
10 142 Obtaining patient feedback about the success of quality improvement initiatives was critical to the
11
12 143 project, and interviews with services users and “boundary crossing” local health workers and
13
14 144 community members were obtained. Consistent with our participatory approach, feedback visits
15
16 145 occurred to each community to report findings from each site back to staff members and community
17
18
19 146 members.

22 147 *Study population and case sampling*

25 148 ‘High improving’ services were identified by calculating quality of care indices for Indigenous health
26
27 149 services participating in the ABCD National Research Partnership. These indices were based on the
28
29 150 delivery of services against the recommended guidelines for service provision in four areas: maternal
30
31 151 health, child health, preventive health and chronic disease (Type 2 diabetes T2DM). ‘High-
32
33 152 improving’ services showed continuing high-improvement over at least two of the four audit tools
34
35 153 over three or more audits. The method used to calculate the high-improvement category of health
36
37 154 services is described in full elsewhere (20).

41 155 The characteristics of the six Indigenous health services categorised as high-improving in this study
42
43 156 are described in Table 1. All health services are located in northern Australia and five are located in
44
45 157 communities with a predominantly Indigenous population. Most of the services are situated in
46
47 158 remote locations with relatively small populations, fewer than 1000 people, but two are in larger
48
49 159 rural “cross-roads” towns with a larger, more mobile population with services offered to
50
51 160 communities across the wider area, often people living in very remote parts of northern Australia.
52
53 161 Three of the services are Government operated health services which means they are governed and
54
55 162 funded by the health department of the relevant state. Two of the services are Aboriginal
56
57 163 Community Controlled Services (ACCHS) which means the services are operated by the local
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3 164 Aboriginal community to deliver holistic and culturally appropriate health care to the community
4
5 165 which controls it (through a locally elected Board of Management; 21). One of the case studies is a
6
7 166 health partnership between government operated health services and an Aboriginal Community
8
9
10 167 Controlled Health Organisation (ACCHO). The process for undertaking CQI audits and completion of
11
12 168 System Assessment Tools (SATs) differed across the high improving health services (Table 1). Some
13
14 169 of the services adopted a formal approach which involved all staff members, whilst in other services
15
16 170 they were facilitated by an external team with varied involvement from the health service staff (22).

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20 171 ***[Table 1 about here]***
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Site	State	Governance	Rurality	Population	% identify as Indigenous	High improvement in	Conduct of CQI audits and SAT tools
1	QLD	Government	Remote	<=500	92	T2DM Maternal	<ul style="list-style-type: none"> • CQI coordinators have conducted the CQI audits each year from 2011-2013 • In 2014 QLD Health ceased investment in CQI audits • The 2015 audits were facilitated by the project team • SAT tools: completed by cluster coordinator • Goals for improvement are not set, shared or implemented with local staff
2	QLD	Government	Remote	<=500	99	T2DM Preventive Child Health	<ul style="list-style-type: none"> • CQI coordinators have conducted the CQI audits each year from 2011-2013 • In 2014 QLD Health ceased investment in CQI audits • The 2015 audits were facilitated by the project team • SAT tools: Feedback sessions with the cluster coordinator - local staff develop and implement goals for improvement.
3	WA	Government/ACCHO partnership	Remote	>=1000	66.5	Maternal T2DM	<ul style="list-style-type: none"> • Senior staff from regional population health unit conducts the audits with support from Menzies • SAT tools: Based on data from the partnership's health care centre and conducted by an external facilitator
4	NT	Government	Regional	501-999	23	Maternal Preventive	<ul style="list-style-type: none"> • Health service manager organises and conducts the CQI audits with the assistance of all other clinical staff • SAT Tools: all staff review reports, look at areas needing improvement and set goals • Goals for improvement are discussed in meetings (regular agenda item), general observations, shared decisions on goal for improvement
5	NT	ACCHS	Remote	501-999	93	Preventive Child Health	<ul style="list-style-type: none"> • CQI audits conducted by Primary Health Care Coordinator located at regional health service organisation • SAT tools: service participates in weekly quality improvement discussions
6	NT	ACCHS	Regional	>=1000	100	Preventive Child Health	<ul style="list-style-type: none"> • Clinicians conduct the CQI audits • The audits are coordinated by the CQI coordinator and DMS • SAT Tools: all clinicians participate in the SAT process • Goals are discussed by clinicians and strategies are determined together

172 Note: QLD = Queensland, WA = Western Australia, NT = Northern Territory

173 **Table 1: Characteristics of participating Indigenous PHC services**

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2
3 174 *Data collection*
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6 175 Four data sets were used for the case studies: (1) existing audit and systems assessment tool data;
7
8 176 (2) qualitative interviews with health staff, service users and external stakeholders; (3) health service
9
10 177 and workforce questionnaires completed by local managers; and (4) non-participant observation by
11
12 178 members of our team as recorded in field notes. Data were collected between 2015 and 2016 during
13
14 179 two or more visits to the sites. Multiple data sources were used to enhance data credibility and
15
16 180 develop a more holistic understanding of the high improving services (23). Interviews with local and
17
18 181 visiting health service staff and managers and regional managers explored the impact of contextual
19
20 182 factors and the interplay of systems factors (such as leadership, governance, resourcing and
21
22 183 workforce) on quality improvement in the service. Service users were asked about their history of
23
24 184 use of the service, what they thought about it and the staff, and improvements they might like to
25
26 185 see.
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31 186 *Analysis*
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33

34 187 The interviews were digitally recorded and transcribed. The analysis of qualitative interviews was
35
36 188 completed abductively (24), which is an inferential creative process of producing novel concepts; in
37
38 189 this study, about health system and implementation factors that support continuous quality
39
40 190 improvement in Indigenous health services. Within-case analysis was conducted first. Transcripts
41
42 191 and field notes were read by multiple team members and then coded by three team members into
43
44 192 NVivo qualitative data analysis software (QSR International Pty Ltd. Version 11) for each case. Codes
45
46 193 were derived deductively using the interview topics and were used consistently across the six cases.
47
48 194 Then, within each case, codes were amalgamated into themes developed inductively, identifying
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50 195 underlying meanings apparent in codes. The themes for each case were visually displayed at the
51
52 196 macro, meso, and micro level and reported back to the health service team to refine the descriptive
53
54 197 model and conclusions.
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198 Across-case analysis involved aligning similar and different themes for each case in a visual display.
 199 Then similar themes across-cases were analysed together to determine the commonalities and
 200 produce new themes. Themes that were unique to one service were retained. Concurrently, theory
 201 and concepts about quality improvement, health systems functioning, and Aboriginal and Torres
 202 Strait Islander community participation were reviewed to see if our findings concurred with existing
 203 concepts or whether we could add new ones. Discussion of both within-case and cross-case findings
 204 took place with our service partners (both individually and jointly) to assist our interpretation.

205 Findings

206 A total of 134 interviews were conducted across the six case study sites (Table 2).

207 **Table 2: Number of interviews conducted in each case study site (N=134)**

Site	1	2	3	4	5	6	Total
Health service staff	7	4	12	7	12	12	54
Health service user	9	6	10	8	8	10	51
External stakeholder	0	4	3	5	8	4	24
Total	16 (5)*	14 (5)*	25	20	28	26	134

208 ** A total of five regional stakeholders with common responsibilities for sites 1 and 2 were*
 209 *interviewed.*

211 Analysis of the case studies revealed a complex interplay of systems factors that were individualised,
 212 reflecting the context and circumstances of the service (Table 3 – supplementary material). Some of
 213 these factors, common across most services, are consistently reported in the literature and some are
 214 novel. At the macrosystem level, the first group of factors commonly reported included: (1) linkages
 215 and partnerships with external organisations; and (2) supportive external health service policies. At
 216 the mesosystem, or health service level the common factors were: (3) health service CQI supports;
 217 (4) teamwork and collaboration; and (5) prepared workforce; whilst at the microsystem level the
 218 factors were: (6) consumers engaged with the service; and (7) caring staff (Figure 1). The novel

1
2
3 219 factors found in most services at the macro system were: (1) understanding and responding to the
4
5 220 historical and cultural context; (2) communities driving health improvement; and at the meso level,
6
7 221 (3) two-way learning between health professionals and communities.
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9

10 222 We also report on the perceptions of interviewees about the reasons for high continuous
11
12 223 improvement at the service. The operationalisation of “two-way learning”, although it was not
13
14 224 named as such, was found in three sites where there were high levels of interaction of the cultural
15
16 225 and historical Indigenous context with the strategies for CQI.
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20 226 Each of these findings is now described in turn.
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23 227 **[Figure 1 about here]**
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29 229 **Factors influencing CQI at high improving services consistent with existing literature**
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32 230 ***Macro level factors: Linkages and partnerships with external organisations***
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36 231 High improving services linked with external organisations to enhance the health care they were
37
38 232 providing, for example attending regional forums as part of the CQI support system. This occurred in
39
40 233 all the services although processes differed. Health professionals recognised that they did not
41
42 234 operate in isolation so engaged with local organisations and other health service providers. Some
43
44 235 linkages were informal or ad hoc based on local priorities and needs, and others were more formal
45
46 236 partnerships.
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48

49
50 237 *Where the different organisations across the Territory come together and we share data*
51
52 238 *and we share experiences, and quite often people have got really good processes ... it*
53
54 239 *turns out we're pretty much all addressing the same issues... Sometimes one of the other*
55
56 240 *AMSs have started to deal with it [a problem] and make improvements that are*
57
58 241 *effective. And if you don't talk to them, you don't know. [Health service staff, site 6]*
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4 243 Working together was important for implementation and linked to a shared motivation or a
5
6 244 “collective intent” to improve the healthcare of the communities services were working with. Some
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9 245 jurisdictions had a policy impetus that helped drive collaboration. However, the strongest theme
10
11 246 was ensuring health service users and the community received timely and appropriate care to
12
13 247 improve outcomes. Other reported benefits of working with external organisations included sharing
14
15 248 expertise, information, and improved relationships with clients and community.

17
18 249 *And it shows – the clients are getting better outcomes. As an example, we’ve had difficulty*
19
20 250 *with patients that can’t get dialysis here...We don’t have the capacity to just start plucking*
21
22 251 *money out of anywhere to send individuals back for dialysis. Neither do [service name] but*
23
24 252 *between us being very creative about who’s going to [local town] what services are travelling*
25
26 253 *between [local town], how we can utilise whatever’s happening between our three services*
27
28 254 *and in the community. [Health service staff, site 3]*

29 30 31 32 33 255 **Supportive external health service policies**

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35
36 256 Health service policies from the state level (i.e. Queensland Health, Western Australia Health and
37
38 257 Northern Territory Health) and national level health departments provided an overarching
39
40 258 framework within which the health services operated. In some jurisdictions, external health service
41
42 259 policies at the macro level were supportive of CQI. In supportive contexts there was provision of
43
44 260 leadership through the appointment of regional CQI coordinators working across multiple services;
45
46 261 training for health service staff with funding to attend CQI workshops; and workforce policies and
47
48 262 tools to facilitate CQI in the health services.

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50
51 263 *We have received a lot of support from central – from NT Health. We are able to access*
52
53 264 *the CQI coordinator if we need to, to get some advice... We have at least an annual*
54
55 265 *meeting for the CQI Facilitators, where they’re developing up specific skills that they can*
56
57 266 *then teach to the teams that they work with. [Health service staff, site 4]*
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5 268 *There's the concept of the Traffic Light Report that's coming out now ...We also noticed*
6
7
8 269 *that we're making improvements if we look at the previous three or four reports and the*
9
10 270 *colours are changing! So that was a really good thing to see and even though things*
11
12 271 *aren't great in all areas yet, the fact is we're trending up in morale. [Health service staff,*
13
14 272 *site 4]*

15
16 273
17
18 274 Health services located in one of the jurisdictions where there had been less consistent central
19
20 275 leadership and support had generated local solutions for CQI.

21
22 276 *I think we're doing a lot of good stuff that is not really captured...and when I start*
23
24 277 *talking about things, 'what have you done?' 'How can we do this better?' 'Oh no, no,*
25
26 278 *we've already got this process and that process and we're doing this.' And it's*
27
28
29 279 *fascinating to see them light up when they realise that they are actually doing a lot of*
30
31 280 *improvement and they didn't see it as such. [External stakeholder, Sites 1 & 2]*

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36 282 ***Meso level factors: CQI systems and supports at health service level***

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39 283 Having appropriate systems and support at the health service level was vital for CQI in relation to
40
41 284 embedding CQI into daily activities. Interviews with health service staff from high improving services
42
43 285 indicated that effective CQI systems and support included: information technology (IT) systems
44
45 286 integrated with the electronic medical record for recalls; templates to assist people to reliably and
46
47 287 objectively record data; regular production of quality reports and audit data; and team meetings
48
49 288 with a focus on quality improvement.

50
51
52
53 289 *I suppose the greatest thing, all your notes are in one place - everyone's notes. So it*
54
55 290 *opens it up – doesn't matter where they turn up. Coz everyone's seeing the same screen*
56
57
58 291 *[Health service staff, site 6]*
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2
3 292 All services had CQI systems in place but how these were implemented differed slightly. In some
4
5 293 health services it was very structured and standards driven.

6
7
8 294 *Whereas for us, our core business is acute care and our continuing quality improvement*
9
10 295 *is set at a national standard.* [External stakeholder, site 3]

11
12
13 296 In other services, formal systems ran in parallel to very practical and community-driven systems. For
14
15 297 example, one community-driven process ensured that yearly health checks are conducted in the
16
17 298 month of the resident's birthday. This spread the clinic's workload across the year but also ensured
18
19 299 coverage while making health screening and vaccination routine, non-intrusive, and efficient.

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25
26 301 CQI systems and supports were viewed positively and promoted a routine and culture of CQI.

27
28 302 Some health service professionals reflected on CQI in terms providing appropriate and timely care.

29
30
31 303 *What is particularly effective is to be able to effectively gather statistical information*

32
33 304 *which is what we're using and so that's really good, to be able to press a few buttons...I*

34
35 305 *do a lot of recalls and the nurse would do a print out of all our recalls and I'll follow*

36
37 306 *them [clients] all up and try and get them in.* [Health service staff, site 4]

38
39
40 307 ***Teamwork and collaboration: shared focus***

41
42
43 308 A striking feature of these high improving services was staff commitment to working together

44
45 309 towards the same end – improved health for the clients and the community. This was expressed in a

46
47 310 variety of ways. Perhaps the most obvious was “*We all know why we are here,*” meaning that all

48
49 311 staff at the health centre had a shared commitment to improving health outcomes. Furthermore,

50
51 312 evident in the high improving services was the connection between teamwork and continuous

52
53 313 improvement and involving the whole team in CQI.

54
55
56
57 314 *And you could just see a lot of the junior staff really listening and starting to switch on*

58
59 315 *and go, 'okay. So there's more to me than just answering the phone.' And, 'this is how*

1
2
3 316 *I've contributed in this area and that area...and this is our actual purpose. This is what*
4
5 317 *we're really here for.* [Health service staff, site 5]
6
7

8 318
9
10 319 In several services, staff were perceived to be "*passionate about quality*", meaning that
11
12 320 opportunities for improvement were sought out and embraced. Importantly, these passionate staff
13
14 321 were able to inspire others towards the joint intent to improve the health of individuals and the
15
16 322 community as a whole. "*How can we improve the community's health?*" was a mantra in one service
17
18
19 323 and others shared similar themes.
20

21
22 324 *The CQI is something which is best done when someone's interested in it and hopefully*
23
24 325 *passionate. And we do have that fortunately, but when someone actually likes it and*
25
26 326 *particularly when they get the feedback that they're improving things, they can see the*
27
28 327 *difference that it's making.* [Health service staff, site 4]
29
30

31 328
32 329 Building teamwork for CQI required leadership to drive and facilitate activities such as team
33
34 330 meetings, shared decision making and support networks. One health service described their
35
36 331 strategy of bringing together groups of people as teams to do the CQI audits. Another health service
37
38 332 brought together remotely located health professionals to discuss CQI at weekly teleconferences.
39
40

41 333 *But you know, we have that collaborative team approach across everything. We also*
42
43 334 *collaborate strongly with our remote clinicians so we give them the opportunity to be*
44
45 335 *involved in decision-making around quality so they're engaged every Friday mornings so*
46
47 336 *basically like a team meeting, with a quality focus.* [Health service staff, site 5]
48
49

50 337
51 338 In many of the services, CQI was embedded in how they operated and was everybody's business.
52
53 339 The comment below illustrates one service's team approach, searching for ways to improve and
54
55 340 analysing data in a way that guided areas for improvement.
56
57
58
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60

1
2
3 341 *Yeah so it actually becomes quite good and everybody gets involved and has a look. If*
4
5 342 *something isn't working properly you fix it... We look at it and work out what we need to*
6
7 343 *change from spreadsheets for chronic disease, where your shortfalls are. 'Coz if you*
8
9 344 *don't do that sort of stuff, you can't actually see what the problem is. We had a session*
10
11 345 *a few weeks ago with spreadsheets, graphs and pie charts, and even the doctors are*
12
13 346 *surprised at what they haven't been doing.* [Health service staff, site 4]
14
15
16
17 347

18
19 348 Further reasons frequently expressed for working as a team were the enormity of the task to
20
21 349 improve Indigenous health and pressure to get it right because it mattered to them
22
23 350 personally. As stated by one staff member, *'You know this is chronic disease data to you' I*
24
25 351 *said, 'but to me it's my families.'* [Health service staff, site 3]. The valued mix of skills held by
26
27 352 Indigenous staff and balancing those held by non-Indigenous staff was important.

28
29
30 353 *It's good to see the Indigenous people really involved in the organisation. It makes a lot*
31
32 354 *of Aboriginal people feel more relaxed - more comfortable with using the service.*
33
34 355 [Health service staff, site 6]
35
36

37 356
38 357 Thus it was a collective intent and action rather than just an individual attribute that acted as a
39
40 358 motivator supporting the development of shared goals and objectives and improved health
41
42 359 outcomes for service users.

43
44
45 360 *We've structured everything so everyone's involved. So likewise with primary health care*
46
47 361 *governance – everyone's involved and that was always... But it's always with a*
48
49 362 *collaborative approach if that makes sense....* [Health service staff, site 5]
50
51

52 363 ***Prepared and stable workforce for CQI***

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54

55 364 Interviews with health professionals and stakeholders revealed a pragmatic understanding about
56
57 365 requirements for the health workforce. Characteristics of a prepared workforce included stability;
58
59 366 appropriate orientation; a mix of Aboriginal and non-Aboriginal staff; trusting relationships, and

1
2
3 367 supportive leadership. Many of the services had long-term staff and those stable staff had
4
5 368 developed deep knowledge and understanding about the communities they were working in and
6
7
8 369 with that appropriate ways to deliver primary health care.
9

10 370 *The advantage they have is that they have a more stable staff and going right through*
11
12 371 *from their reception staff to their clinical staff. They've got staff who really understand*
13
14
15 372 *about how to deliver primary health care programs ...they have to think hard about how*
16
17 373 *they do that for both an Indigenous population and a non-Indigenous population.*
18

19 374 [Health service staff, site 4]
20

21 375 These comments suggest that staff stability enabled trusting relationships and embeddedness to
22
23 376 facilitate improvement in health care, perhaps reflecting also on understanding the care system and
24
25 377 having the maturity and confidence to make small changes for the benefit of service users. However,
26
27 378 striving for workforce stability was a challenging space for most services, so some had developed a
28
29 379 range of pragmatic strategies to increase preparation and support.
30
31
32

33
34 380 *...it's a challenging space and although we strive for this stability, the trade-off is you*
35
36 381 *know, if people stay too long that's a challenge as well. And you kinda find the balance*
37
38 382 *between having a really well prepared workforce and being able to support that really*
39
40 383 *well prepared workforce and then having a workforce that are tired and a bit*
41
42 384 *disgruntled and are struggling in this space.* [Health service staff, site 5]
43
44

45 385 Linked to a stable workforce was the mix of Indigenous and non-Indigenous staff. Some health
46
47 386 professionals observed that Indigenous staff were likely to stay longer as they were locals living in
48
49 387 the community/local area. Locally-based Indigenous staff were knowledgeable about the
50
51 388 community and local culture, and this knowledge was respected. In addition, the retention of locally
52
53 389 based Indigenous staff gave the community a sense of ownership and users of the service felt that
54
55 390 staff knew the community well.
56
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1
2
3 391 *And our Aboriginal staff stay a lot longer because they're local. ...The fact is there are a*
4
5 392 *lot of locals working here - that's a good thing too. It is their resource base within the*
6
7 393 *community. It also gives the community a sense of ownership over the Health Services as*
8
9 394 *well, knowing that they've got locals working in there. [Health service staff, site 6]*
10
11
12 395

13
14 396 **User and community engagement with the service**

15
16
17 397 User and community engagement with the health service was frequently cited as influencing how
18
19 398 CQI was enacted across the participant health services. Health service users commented on having a
20
21 399 good relationship between the health service and the community it served.

22
23
24
25 400 *...well they're doing everything all alright. They get along with the community people.*

26
27 401 *They go around, they have a yarn to people. If they need to chase someone down, they*
28
29 402 *go and do that. Everything's going good. [Health service user, site 5]*

30
31 403 The mechanisms reported and observed for health services engaging with users and the community
32
33 404 varied. For some services, these related to engaging in the monitoring of their health at both the
34
35 405 individual and group level. In other health services it was related sitting down together with
36
37 406 community and asking the question 'How do we improve services?'

38
39
40 407 *We go out yearly and hold open community meetings. So us as management staff will*
41
42 408 *go out, put ourselves in front of the community um...we'll give an update on what we've*
43
44 409 *done for the last twelve months and then we open that up to the community and our*
45
46 410 *performance review begins at that point. You tell us from a grass roots perspective,*
47
48 411 *what we've been doing right and what are our challenges and if we've got challenges*
49
50 412 *then [they] will certainly let us know. ...and at that grass roots level, it's about sitting*
51
52 413 *down and talking. [Health service staff, site 5]*
53
54
55

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3 415 Other comments from health professionals focused on the importance of developing a connection
4
5 416 with community and their culture. All services worked with or in their communities and drew on
6
7 417 strong place-based family connections. These connections supported CQI when there was open
8
9 418 communication between health centre staff, community members, and other key people about
10
11 419 community views, aspirations, and health issues.

12
13
14 420 *One of the 'hooks' for Aboriginal people to get involved in the health services was the*
15
16 421 *Aboriginal and Torres Strait Islander health checks – just around the engagement with*
17
18 422 *the families getting families in, getting them engaged. It was going in the right direction*
19
20 423 *and it is working on a large community development program- because people say*
21
22 424 *family health but I see it as community development....you gotta have that engagement*
23
24 425 *side of things kind of grounded down I think. [Health service staff, site 6]*

25
26
27
28 426 **Microsystem factors: "Going the extra mile" and staff caring, commitment**

29
30 427 This theme was characterised by health service users as getting personalised service from health
31
32 428 professionals with health service staff going the extra mile. Users of the health service commented
33
34 429 that the personalised service made them feel comfortable and safe, and fostered a trusting
35
36 430 relationship with the health care provider.

37
38
39 431 *I feel comfortable and every time I come here... they've got all these different little*
40
41 432 *changes that happen now and then with the office and stuff it makes you feel really -*
42
43 433 *could you say, at home. [Health service user, site 6]*

44
45
46 434
47
48 435 In all services, clients acknowledged the hard work that staff put in. One interviewee described this
49
50 436 as 'going the extra mile'. The commitment of staff to improve the health of the communities was
51
52 437 also evident from interviews with health service users. Service users described health service staff
53
54 438 as 'taking their duty of care seriously' and being proactive and supportive.

55
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57 439
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1
2
3 440 *They go that little extra mile I think to do those extra things like the afterhours*
4
5 441 *events....The staff always try their best and to help you out. They're on call so if you need*
6
7 442 *to see them after hours they're quite happy to do that....Most of the ones that we get*
8
9 443 *here genuinely care for people and it's more than just a job. [Health service user, site 1].*
10
11
12 444

13
14 445 Overall, one important factor that services users and those people external to the service
15
16 446 noted was the trusting relationships that had been established between service users and
17
18 447 health professionals.

19
20 448 *We have rare, very passionate committed, hardworking [names] that worked out here.*
21
22 449 *And the fact that if you have the same person and the community get to know that*
23
24 450 *person, they get to trust them, they build up that [trust]- which we know takes a while*
25
26 451 *in Aboriginal communities. [Health service staff, site 3]*
27
28
29

30 452 **Novel factors contributing to CQI**

31
32 453
33
34 454 Along with the factors that are well known to assist in implementing CQI were three factors
35
36 455 less frequently reported on but fundamental in these Indigenous communities. These were:
37
38 456 understanding and responding the historical and cultural context in which the service was
39
40 457 located; “two-way” learning between health professionals and communities; and communities
41
42 458 driving their health.
43
44
45

46 459 47 48 460 **Macro level: Understanding and responding to historical and cultural context**

49
50 461
51
52 462 The importance of culture and history of Indigenous and non-Indigenous people associated with the
53
54 463 health services cannot be underestimated and was made explicit during interviews at three sites.
55
56 464 One Indigenous health practitioner put it this way.
57
58
59 465
60

1
2
3 466 *“Our culture is our foundation here. It - you go out of your bounds you know -*
4
5 467 *morally inside you don’t feel right. I mean with [community controlled health service] I think*
6
7 468 *they understand that with most of the Board Members they are our family as well”*. [Health
8
9
10 469 service manager, site 5]
11

12 470

14 471 This person referred to the strength of the foundation of culture and inducting practitioners into this
15
16 472 approach. *“We have a pretty big focus on cultural safety and cultural security in the organisation.*
17
18 473 *People get hammered at cultural orientation. If an issue arises, we’ll nip it in the bud pretty well*
19
20
21 474 *straight away.”* [Health service manager, site 5]
22

23 475

25 476 In another service the rule of culture was referred to as underpinning all aspects of life including
26
27
28 477 healthcare.

30 478 *“the rule of culture is vitally important ‘coz it’s everything I guess ... culture is pretty much our*
31
32 479 *belief. Bottom line. What we believe and you can’t negate culture from anything that happens*
33
34 480 *...the important thing is people understand those beliefs and how do we best balance those*
35
36 481 *things in a way that will be productive going forward”*. [Health service user, site 2]
37
38

39 482

41 483 Understanding culture involves understanding the ways things are done, the importance of
42
43 484 relationships, how to exchange ideas, how to pass news, and how the family systems function. All
44
45 485 these aspects are fundamental to health improvement. It was thought that *“people need to, before*
46
47 486 *they go and talk to people, they really need to sit back and understand their ways first. They need to*
48
49 487 *know their audience”*. [Health service user, site 2]
50
51

52 488

54 489 In this context, maintaining a deep understanding of their community and clients was integral to
55
56
57 490 how services operated and came from motivations to improve care for clients (community) and
58
59 491 improve health outcomes. The embeddedness in Aboriginal and Torres Strait Islander culture in
60

1
2
3 492 these high improving health services was reflected how they approached engaging with service users
4
5 493 and the wider community.

6
7 494 *Find out their story because that'll give you a rough indication of where things are with*
8
9 495 *these people that you're working with.* [Health service user, site 3]
10
11

12 496

13
14 497 **Meso level: "Two way learning" for CQI**

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16 498

17
18 499 A second factor about which there is little knowledge in the CQI literature is "two-way" learning,
19
20 perhaps because it reflects more of a process. Health service staff (both Indigenous and non-
21
22 Indigenous) that were more responsive to the historical and cultural context talked about how they
23
24 501 integrated their knowledge about effective healthcare and CQI processes with Indigenous
25
26 502 community family sensitivities, obligations and traditional ways. This was described by an Aboriginal
27
28 503 staff member as "two way" learning. In several of the services, Indigenous cultural knowledge was
29
30 504 blended with health professionals' expertise.
31
32 505

33
34 506 *Well I think having the Aboriginal health workers on board. It's that two-way learning and I'm*
35
36 507 *a believer of two-way learning and that is between health workers and the doctors. At the*
37
38 508 *moment we have a good quality number of doctors as well. The health worker numbers varies*
39
40 509 *- I've only got four in the clinic but they do the best to their ability and sometimes they get*
41
42 510 *highly strained and stressed.* [Health service staff, site 6]
43
44

45
46 511

47
48 512 Another non-Indigenous staff member was able to describe two-way learning that was practiced in
49
50 513 the health centre that this person was associated with.

51
52 514 *I always like to use the word "tuning in" – tuning in to people. Different frequencies. Listen to*
53
54 515 *them. Understanding them and I can utilise my knowledge with their knowledge to bring a*
55
56 516 *level of half understanding between [us].* [Health service staff, site 2]
57
58

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2
3 518 Two way learning requires a great deal of sensitivity amongst “mainstream” health professionals as
4
5 519 the speaker here identifies.

6
7 520 *We [health service] want to employ them because they’re local. They know the language, they*
8
9
10 521 *know the culture. But then once they get in there, they just become more or less a lackie and*
11
12 522 *they’re expected to work within the mainstream way of doing things and I think that makes it*
13
14 523 *very difficult for an Aboriginal to excel – especially in a mainstream environment.* [Health
15
16 524 service staff, site 2]

17
18
19 525

20
21 526 **Macro level: Community driving health (care)**

22
23 527 There were instances in two different services of communities explicitly driving their health care. In
24
25 528 one location this occurred through a formal structure – the health committee with membership of
26
27 529 health centre staff, staff of other organisations, community leaders, and citizens. The committee
28
29 530 depended on relationships and networks built around trust and shared intent to improve the
30
31 531 communities’ health. In this case, the relationships were longstanding. It also depended on a ‘whole-
32
33 532 of-community’ approach to health that was integrated into daily life. “Serving our people” was a
34
35 533 theme that ran through stories of health care and of whole of community involvement.

36
37 534 *This is a [state department] clinic, but it is on [location] – it is our community. So the focus on*
38
39 535 *community taking control of their own health is something we’ve tried to do; so we’ve come a*
40
41 536 *long way to where we are. I’m glad that it’s evident and it shows how well we function.* [Health
42
43 537 service user, site 2]

44
45
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47 538

48
49 539 Another example of communities driving health was the implementation of an Indigenous model of
50
51 540 healthcare for chronic illness, called the family approach. It involved considering the family and
52
53 541 community as the unit of care rather than the individual.

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57 542

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2
3 543 *...the family approach model requires the involvement of the whole of the primary health team*
4
5 544 *and the community in - I guess probably not a clearly expressible fabric of interaction. But*
6
7 545 *perhaps the essential component of it is around a health service agent and in this case it's*
8
9 546 *been the family GP. A health service agent who engages with a broader family unit so it will be*
10
11 547 *the oldest in the community and their siblings and partners and their children and siblings and*
12
13 548 *partners and their children and siblings and partners. [External stakeholder, site 3]*
14
15
16
17 549

18
19 550 The explicit motivation for the introduction of this alternative approach to healthcare was to
20
21 551 improve Indigenous health, particularly around chronic illness. It was energetically driven by an
22
23 552 Indigenous manager of a health service with strong links with the community.
24
25
26 553

27
28 554 **The perceptions of staff and service users about why the services were high performing.**

29
30 555 Prior to the interview conclusion, participants were asked why they thought their service was
31
32 556 continuously improving. Overwhelmingly the responses coalesced around the calibre of the staff at
33
34 557 the services; their professionalism, energy, commitment, and stability. In each of the services,
35
36 558 people gave staff actions in CQI as the reason for high continuous improvement, persistence in
37
38 559 follow up, enjoying the challenge of providing a “decent level of care for people” and staff
39
40 560 dedication to managing a challenging job.
41
42

43 561 *I think they do a challenging job, with the resources they have. The staff they stick it out. 'Coz if*
44
45 562 *someone's really sick, the only way off is by helicopter. And it's only the one chopper and if*
46
47 563 *they're busy, they may not get here. [Health service user, site 1]*
48
49

50 564
51
52 565 *In terms of insights, why we improved so much –we have very good staff. [Health service staff,*
53
54 566 *site 5]*
55
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57 567
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1
2
3 568 *I'd have to go back to my colleagues [to give the reason for improvement] – they're pretty*
4
5 569 *dedicated.* [Health service staff, site 3]
6
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9
10 571 Another theme, less frequently mentioned was the engagement of the health service with the
11
12 572 community.

13
14 573 *But they also engage well with the community and they have the trust of the community and*
15
16 574 *that makes a big difference.. they're also pro-active in.. engaging the community with health*
17
18 575 *care.* [Health service staff, site 1]
19
20

21 576

22
23 577 Finally, having a supportive environment for CQI, again linked to aspects about the staff, but also
24
25 578 being part of a well-functioning team was said to be related to high levels of continuous
26
27 579 improvement.

28
29
30 580 *I think a supportive environment is good....and everyone participating and everyone being a*
31
32 581 *team player and ...everyone takes responsibility so it's just sort of doesn't fall to one person...*
33
34 582 *so just keeping it supportive and ...and everyone's responsibility.* [Health service staff, site 4]
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37 583

38 39 584 **Discussion**

40
41 585 This project explored in detail how CQI was operationalised at six Indigenous primary health care
42
43 586 services classified as "high-improving" services in response to CQI audits. Consistent with health
44
45 587 systems thinking there was interrelationship and interdependence of components including
46
47 588 policies, technical support systems, service providers and users (25). Whilst these services were
48
49 589 distinctive in the details of how they operated, there were also common factors in how they
50
51 590 operationalised CQI. Common themes amongst the services align with those previously reported
52
53 591 and with existing chronic care models, particularly those at the mesosystem or health service
54
55 592 level: CQI supports and systems within the health service, teamwork and collaboration (including
56
57 593 supportive leadership); and a stable and well-prepared workforce. Adding to our conception of
58
59
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1
2
3 594 how CQI works in practice are some novel themes not often reported on in the literature. These
4
5 595 are: i) embeddedness in the local historical and cultural context; ii) two-way learning between
6
7 596 community and health professionals for CQI; and iii) the community “driving” health
8
9
10 597 improvement at the local level through joint planning, monitoring, and implementing new
11
12 598 Indigenous approaches to healthcare. Attention to these less-tangible elements introduces
13
14 599 additional complexity to how quality might be defined for health care providers working in
15
16 600 Indigenous health.

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19 601

20
21 602 The finding that cultural embeddedness and responsiveness to the historical and cultural context
22
23 603 was a hallmark for these high improving services is important for two reasons. First, it confirms
24
25 604 the importance of community-control or strong community engagement in health services in
26
27 605 Indigenous communities but also provides a rationale for state run or private practices to embed
28
29 606 services in the cultural context. Second, the current move to include a component of community
30
31 607 feedback in quality assessment and accreditation is not comparable in either intent or scope with
32
33 608 what is expressed as cultural embeddedness by respondents in this project.
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37 609

38
39 610 Services selected for case studies included both community-controlled health services and those
40
41 611 provided through government services. Previous quantitative analysis by the project team
42
43 612 demonstrated that a pattern that defined a “high-improving service” was not simply explained by
44
45 613 governance model, community size or remoteness (20). The model for community-controlled
46
47 614 health services has cultural embeddedness and mechanisms for responding to community input
48
49 615 at the core of their existence (although in practical terms how effectively this is operationalised
50
51 616 can vary; 21). However, this study suggests that cultural embeddedness or responsiveness is
52
53 617 fundamental for all services that aspire to offering high quality care to Indigenous people, and
54
55 618 that government services can also establish mechanisms (formal or informal) for seeking direction
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1
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3 619 from Indigenous community members and ensuring mechanisms for meaningful input into the
4
5 620 operations of the health service.
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7 621
8
9
10 622 Whilst national policy statements and guides have moved to include the importance of
11
12 623 community feedback in quality assessment and accreditation (e.g. National Safety and Quality
13
14 624 Health Service Standards (26); RACGP accreditation standards (27)), this is not the same as a
15
16 625 service being culturally embedded. Often accreditation requirements are operationalised as
17
18 626 posters on walls inviting feedback, or patient feedback sheets. The meaningful input described by
19
20 627 health care workers, managers and service users from services in this study involved face-to-face
21
22 628 discussions with individuals or groups, either in specific committees or Boards or by means of
23
24 629 local meetings between community and health service. The importance of Indigenous staff
25
26 630 members providing a stable and trusted workforce and facilitating these interactions between
27
28 631 community and health service (the cultural broker role referred to by Abbott et al, 2008; 28) was
29
30 632 also highlighted as critical to success.
31
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33 633
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35
36 634 Closely related to the finding about the importance of embedding CQI in the Indigenous cultural
37
38 635 and historical context is the concept of “two-way” learning. Our participants, both Indigenous
39
40 636 and non-Indigenous, reported on their understanding of “two-way” learning as a melding of
41
42 637 health professional technical knowledge with a deep understanding and respect of the
43
44 638 community’s customs, rules, and relationships. This was reported as ‘tuning in to people’.
45
46 639
47
48
49 640 This is a very different concept than that of “community capacity building” which is regularly
50
51 641 referred to in health systems strengthening (29). Two-way learning has no presumption that it is
52
53 642 the health professional that is doing the capacity building and the community that is having their
54
55 643 capacity built in order to participate (30). The dominance of western-centric models of health and
56
57 644 health care requires that for true two-way learning there is an emphasis on health professionals
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1
2
3 645 trying to see outside their own cultural frameworks. As Makuwira (2007) puts it, because of the
4
5 646 strength of Western ways of doing things we need to develop appropriate mechanisms through
6
7 647 which a middle ground can be achieved, that is, a give and take between health system personnel
8
9
10 648 on one hand, and Indigenous communities on the other (31).

11
12 649
13
14 650 The other novel concept that emerges from our study is that of the community driving health
15
16 651 care. We note that health systems thinking includes the population that the health system serves
17
18 652 (32). Usually though, a component such as a community is not perceived as a powerful actor
19
20
21 653 influencing implementation of CQI. However, it is not uncommon to observe so-called “activated”
22
23 654 communities powerfully solving health issues through planning, devising alternate program or
24
25 655 advocacy, especially in association with Aboriginal Community Controlled Health services (33).
26
27 656 Capturing the concept of communities actively driving their health, usually in association with
28
29 657 trusted health professionals, might be better done through using the term co-production. Co-
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31
32 658 production means delivering public services in an equal and reciprocal relationship between
33
34 659 professionals, people using services , their families and their neighbours (34). The equal and
35
36 660 reciprocal relationship is at the heart of co-production.

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39 661
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41 662 The findings about the importance of understanding culture, two way learning, and community
42
43 663 driving, were not amongst the factors staff reported on when we directly asked health centre staff
44
45 664 and users their perceptions of the reasons for high performance. Perhaps this could be associated
46
47 665 with the mental maps held by participants of their CQI health system elements and the
48
49 666 interaction (35). Alternatively, it might be that in these high-improving services there is implicit
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51
52 667 knowledge shared by staff, and thus not thought worthy of comment.

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57 669 These findings have implications in terms of practical interventions to strengthen implementation
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59 670 of quality improvement at a broad range of Indigenous PHC services. Levesque and Sutherland
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3 671 (2017) have recently published a conceptual framework of levers for change in healthcare, with
4
5 672 the eight identified levers varying along axes of sources of motivation (internal to external) and
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7 673 origin of change (emergent to planned; 36). Recent work in quality improvement in primary care
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9 674 has focused considerable attention on audit data and how best this can be presented for
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11 675 understanding and implementing change through a series of Plan, Do, Study, Act (PDSA) cycles
12
13 676 and then used for broader implementation (37). Strategies to support this fall mostly under the
14
15 677 formative and supportive levers as outlined by Levesque and Sutherland (36). Whilst undoubtedly
16
17 678 important, ongoing variability in response to existing CQI initiatives (38) suggest that there is now
18
19 679 also a need to broaden attention to include the broader organisational and interpersonal factors
20
21 680 important in achieving change, with services utilising levers from all four quadrants more likely to
22
23 681 achieve sustainable changes in quality. According to our data, key amongst these factors is
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25 682 harnessing a shared interest in CQI amongst a wide range of staff, managers and community
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27 683 members through their joint interest in improving health outcomes for the community. This
28
29 684 genuine and deep motivation about real people that underpin the data and figures was noted by
30
31 685 health service providers. A good example of recognising and fostering joint endeavour and
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33 686 organisational change is the “CQI is everybody’s business” slogan that is synonymous with the
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35 687 successful Northern Territory CQI Collaboratives. The motivation for community members is
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37 688 poignantly expressed in terms of health of family members.
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47 690 Specific initiatives to enhance the effectiveness of existing CQI initiatives might involve: recruiting
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49 691 and supporting an appropriate and well prepared workforce (through appropriate orientation and
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51 692 support materials); training in leadership and joint decision-making; supporting and expanding
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53 693 the role of regional CQI collaboratives; and developing workable mechanisms for two-way
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55 694 community engagement. Some of these recommendations for policy and practice are outlined in
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57 695 more detail in Box 1.
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696 Support the health workforce to develop two-way relationships with community
697 members building knowledge of the historical and cultural context so improvement
698 processes are embedded in culture and genuine engagement.

699 Facilitate a prepared and stable workforce with attention to optimising the Indigenous
700 and non-Indigenous workforce mix in staff recruitment, orientation and retention.

701 Ensure that health service operational systems and IT systems support the routine
702 practice of CQI by all health service staff.

703 Institutionalise a quality improvement approach through support at all levels through
704 collaborative decision making and embedding it in orientation, staff training, regular
705 team meetings and regional partnerships.

706 Make the purpose of quality improvement explicit and shared with a focus on
707 improving client care and health outcomes.

708 **Box 1. Recommendations for policy and practice**

709

710 **Strengths and limitations**

711 This research has focused on learning from in-depth study of a sample of six Indigenous
712 PHC services across northern Australia. All services were selected based on sustaining
713 high improvement in more than one audit tool over at least two cycles in CQI initiatives.
714 We aimed to understand how these services operationalised quality improvement; “the
715 secrets of their success” at a local level. This focus on depth rather than breadth in
716 numbers of services necessitates some caution in generalising from the findings,
717 however, a number of factors enhance confidence that the findings are likely to have
718 wider applicability across a broader range of Indigenous PHC services, particularly those
719 in northern Australia and outside major cities. The participating services were broadly
720 representative of a range of service types, including three jurisdictions, a range of
721 community sizes, rural and remote communities and both government and community

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3 722 controlled services. Some were extremely isolated and discrete services, but two of them
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5 723 were major “crossroads” communities, located at transport intersections, with a range of
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7 724 language groups and communities attending the service. Thus, findings are likely to be
8
9 725 generalizable to some extent within the Australian Indigenous PHC context. In addition, a
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11 726 strength was the large number of interviews (134), and the involvement of Aboriginal
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13 727 researchers in both data collection and interviews and in the analysis of the qualitative
14
15 728 data. Involvement of key stakeholders from the participating service as part of the
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17 729 project team has enhanced the rigour and trustworthiness of our analysis and enhanced
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19 730 the two-way learning embedded in our partnership approach to research.
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25 731 **Conclusions**

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28 732 Services successful in improving quality of care: i) make CQI “everyone’s business” by
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30 733 involving a wide range of stakeholders, including community; and ii) make explicit that CQI
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32 734 supports a shared focus on improving client care and health outcomes. The services
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34 735 involved active, visible and actionable engagement and input with and from the community
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36 736 as part of this process. These findings suggest that in order for CQI to deliver the desired
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38 737 outcomes, it is important to focus not only on “what” is done and by whom, but also the
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40 738 underlying assumptions and processes about how it is done and the role of the community
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42 739 in shaping these processes. The next step is identifying and implementing modifiable levers
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44 740 at each level of the system to use in implementation studies with services that are striving
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46 741 to improve their quality of care in response to CQI.
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55 743 **Figure legends:**
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58 744 **Figure 1: Factors influencing CQI at high improving services**
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3 745 **List of abbreviations**
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6 746 CQI – Continuous Quality Improvement
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9 747 PHC – Primary Health Care
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12 748 ACCHS – Aboriginal Community Controlled Health Service
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16 749 **Declarations**
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19 750 Ethics: This work received ethical approval from Menzies/Top End Human Research Ethics
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22 751 Committee, from Queensland Health, from the Kimberley Aboriginal Health Forum and Western
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25 752 Australian Country Health
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28 753 Availability of data: Qualitative data is held by the research team at James Cook University. Audit
29
30

31 754 data is held by the CRE-IQI and available on request.
32
33

34 755 Competing interests: No competing interests were identified.
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36

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38
39

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42

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51

52 761 helped shape our thinking.
53
54

55 762 Author contributions
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58 763 SL, RB, VM, JE, KCopley and ST conceived of the idea. NT, KCarlisle, JT and SL were all involved with
59
60

764 data collection and analysis. SL, RW, KC, SC and JE with RB, ST, VM were involved in planning the
765

765 project. All authors have reviewed and approved the final manuscript.

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Table 3. Summarised within case analyses: Factors affecting continuous quality improvement (supplementary material)

Level	Theme	Site (1)	Site (2)	Site (3)	Site (4)	Site (5)	Site (6)
Macro	Linkages/ partnerships with external organisations	-	** “So [name] comes around quite frequently and gets an update on health because he’s on the Hospital Board. He goes around all the different agencies in the community for updates so he’s very proactive in that way.”	** “The partnership recognises that other agencies also contribute, so there is Mental Health, there is [name] Paediatrics that provides services, there’s also United First Peoples of Australia who provide services.”	** “You know we need really good relationships with services like [ACCHS] to sort it out. I know we’ve got some students that have organised with their Clinic to be able to get their medication while they’re here.”	* “AMSANT did one of their collaborative workshops in Katherine and the focus was on anaemia ...I know that we’ve shared data with the ABCD partnership stuff.”	* “There are very good relationships with stakeholders in Central Australia from clinical working on a daily basis, we need to strengthen those relationships.”
	Supportive external health service policies	* “So just because of the stability and the belonging and the Health Workers, in the communities, it’s more ideal to invest and give them the appropriate training.”	* “.. there’s a huge shift in the way Primary Health Care is delivered and it’s coming from the top. Before it was more acute. Executives have finally realised that...”	** “There was a really concerted effort to try and get people on fixed term contracts rather than agency. Or swap them over from agency to fixed term.”	** “We have received a lot of support from central – from N.T. Health. We are able to access the CQI coordinator if we need to, to get some advice.”	** “we probably find a lot of our support from the N.T. Health Government as well.”	-
	Understanding and responding to historical and cultural context	-	** “people need to, before they go and talk to people, they really need to sit back and understand their ways first. They need to know their audience.”	** “Find out the story of the people that you’re working for... that’ll give you a rough indication of where things are... It gives you a bit more understanding of them.”	-	** “We have a pretty big focus on cultural safety and cultural security in the organisation. People get hammered at cultural orientation. If an issue arises we’ll nip it in the bud pretty well straight away.”	** “I’m a full supporter of Aboriginal Health Services and as a community we need to get behind them ...Our health is not improving and in fact... it’s actually gone downhill since the intervention in the Territory”
	Community driving health	-	** “The Health Committee	-	-	** “consumer input into	-

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	(care)		in the community, introduced that because that was where we needed to be working and that was our support system. We'd all agree that we'll be coordinating and that was the beginning of the direction of our future health"			the governance of care ...that makes a big difference...but anything new that comes to us is provided in terms of a cultural and security framework and...that does help with engagement in care and participation, and some of the self-management stuff."	
Meso	CQI systems and supports at health service level	-	* "They do yearly checks on a few things and the health care staff here are quite good at monitoring – controlling who's coming in and who's going out.."	-	** "The CQI is something which is best done when someone's interested in it and hopefully passionate. ...when they get the feedback that they're improving things, they can see the difference that it's making."	** "So we have quite a tight structure around quality improvement. We do actively have a quality approach to the way that we deliver our health service and we actually announce that-we say that."	** "We have embraced the process a lot more than what was in place before then. It's a regular process now"
	Teamwork and collaboration: shared focus	** "We support each other. "We're pretty tight as a unit."	** "It's the communication here, it's just really open and [lack of experience] isn't held against me so to speak. I suppose coz I'm fresh eyes as well. And I have been asked you know, 'if you see anything that you think is missing."	** "We are a team and using the computer system while you're triaging a mother for ...pain, 'oh look she's overdue, six week check.' 'Let's just have a look at baby in the pram. He's two months overdue his needles!' That's the kind of things that we're trying to	** "They've got staff who really understand about how to deliver primary health care programs and they really think about and they have to think hard about how they do that for both an Indigenous population and a non-Indigenous population"	** "When we think about why are we here? We're here for our people out in our communities and how do we provide the service best we can ... we respond to their needs and wants."	** "They would work with a Health Practitioner usually...So they got to work in ways that they don't normally work. So there was all this team-building type stuff, you know, and relationship type stuff, in a different way, which was good."

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				strive for.”			
	Prepared and stable workforce for CQI	** “it’s better to have one that’s here coz they- they build a rapport with the locals and they get to understand a full history of the patient, which is good.”	** “The Health Service runs smoothly because the continuity has always been there. So [name] knows the system and what kind of programs to deliver.”	** “I honestly think local personnel and a fresh outlook has made a big difference [to the partnership] and that’s continuity. Stopped this...churn of agency through this hospital.”	** “The advantage they have is that they have a more stable staff and going right through from their reception staff to their clinical staff.”	** “I think the benefit that we have here is a very stable Leadership Group. So all of the people ...have been here for at least five years...and some of us for ten. I see in terms of staffing, I see stability now that I’ve never seen in the past.”	** “I think that they have consistent staff which makes a difference. A lot of the other health centres that you go to every time you go there’s a different staff member there that makes it difficult. So having consistent staff is one of the big keys.”
	“Two way learning” for CQI (Indigenous culture and health)	-	** “I always like to use the word tuning in – tuning in to people. Different frequencies. Listen to them. Understanding them and I can utilise my knowledge with their knowledge to bring a level of half understanding between [us].”	** “What was working really well, through the partnership is the Family Approach program. The first step was to introduce the doctor to the traditional owners of that place, then meeting the chairperson, explaining the Family Approach to them and the Council and the community.”	-	** “We go out yearly and hold open community meetings..Management staff will go out, put ourselves in front of the community...give an update on what we’ve done for the last twelve months...open that up to the community and our performance review begins at that point. You tell us from a grass roots perspective, ...and if we’ve got challenges then [they] will certainly let us know.”	** “I think having the Aboriginal health workers on board? It’s that two-way learning and I’m a believer of two-way learning and that is between health workers and the doctors.”
Micro	User/community engaged with the service	** “We have regular women’s nights where we can promote	** “People seem to trust and follow up on their own health, instead of	** “One of the ‘hooks’ for Aboriginal people to get involved in the	** “The people that do come to the clinic, they come when they’re	** “We have a client population that is I suppose, regularly	** “I feel comfortable and every time I come here, everybody’s just laid

friendship, getting together and support.” people having to go out and collect them, which is quite interesting as well. Like the health behaviour here is I think a bit different than the type of places I’ve been” health services was the Aboriginal and Torres Strait Islander health checks – just around the engagement with the families getting families in, getting them engaged.” called in general and they engage. They try and do what you ask them to do. They’re very actively managed by the clinic in terms of getting them in here and they get good service when they come in...and they come back.” interacting with the health system.” back. Then they’ve got all these different little changes that happen now and then with the office and stuff it makes you feel really - could you say, ‘at home’.”

“Going the extra mile” and staff caring, commitment

**
“They go that little extra mile I think to do those extra things like the afterhours events.”

**
“[name] has been there for a number of years and has gained the trust of many community members. [name] is part of community.”

**
“You know, it’s respectful and they listen to you if you got a problem. You know, a lot of health centres don’t listen to their community people when they go in and some are very hard to talk to, but you can go up any time and talk to them about anything if you need to.”

**
“I had bleeding so we rang up the clinic and a Health Worker she got a hold of the nurse. Well by the time I got to the clinic, she rang and apologised. She even pulled her kids out of the bath to get over to me. So I mean that’s real dedication.”

**
“...well they’re doing everything all alright. They get along with the community people. They go around, they have a yarn to people. If they need to chase someone down, they go and do that.”

**
“I enjoy coming in here you know. Have a talk with them and that. They’re always happy, no sad faces or anything. They always greet you with a smile. And they ask me questions too you know. Where they’re going wrong.”

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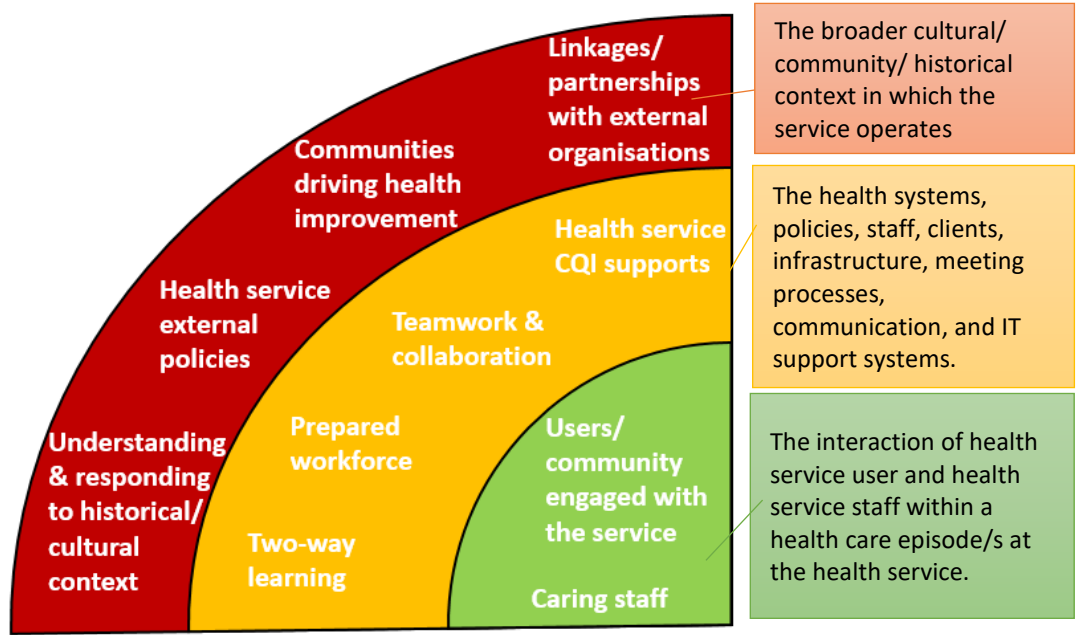


Figure 1: Factors influencing CQI at high improving services

peer review only

BMJ Open

“At the grass roots level it’s about sitting down and talking”: Exploring quality improvement through case studies with high-improving Aboriginal and Torres Strait Islander primary health care services

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36 35 **Keywords:** continuous quality improvement, primary health care, Aboriginal, systems
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39 36 approach, implementation, quality of care.
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41

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3 43 **Abstract** (298 words)
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6 44 **Objectives:** Improving the quality of primary care is an important strategy to improve health
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8
9 45 outcomes. However, responses to Continuous Quality Improvement (CQI) initiatives are
10
11 46 variable, likely due in part to a mismatch between interventions and context. This project
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13
14 47 aimed to understand the successful implementation of CQI initiatives in Aboriginal and
15
16 48 Torres Strait Islander health services in Australia through exploring the strategies utilised by
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18
19 49 “high-improving” Indigenous primary health care (PHC) services.
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21

22 50 **Design, settings and participants:** This strengths-based participatory observational study
23
24 51 used a multiple case-study method with six Indigenous PHC services in northern Australia
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26
27 52 that had improved their performance in CQI audits. Interviews with health care providers,
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29
30 53 service users and managers (N=134), documentary review and non-participant observation
31
32 54 were used to explore implementation of CQI and the enablers of quality improvement in
33
34 55 these contexts.
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37 56 **Results:** Services approached the implementation of CQI differently according to their
38
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40 57 contexts. Common themes previously reported included CQI systems, teamwork,
41
42 58 collaboration, a stable workforce and community engagement. Novel themes included
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45 59 embeddedness in the local historical and cultural contexts, two-way learning about CQI, and
46
47 60 the community “driving” health improvement. These novel themes were implicit in the
48
49
50 61 descriptions of stakeholders about why the services were improving. Embeddedness in the
51
52 62 local historical and cultural context resulted in “two-way” learning between communities
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54
55 63 and health system personnel.
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3 64 **Conclusions:** Practical interventions to strengthen responses to CQI in Indigenous primary
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6 65 health care services require recruitment and support of an appropriate and well prepared
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8 66 workforce, training in leadership and joint decision-making, regional CQI collaboratives and
9
10 67 workable mechanisms for genuine community engagement. A “toolkit” of strategies for
11
12 68 service support might address each of these components, although strategies need to be
13
14 69 implemented through a two-way learning process and adapted to the historical and cultural
15
16 70 community context. Such approaches have potential to assist health service personnel
17
18 71 strengthen the PHC provided to Indigenous communities.
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27 73 **Strengths and limitations of the study**

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29
30 74 • This study used a participatory approach and mixed methods to gather rich, contextually-
31
32 75 informed data from each of our six case-study sites.
33
34 76 • This approach addresses an identified gap in the literature – that of linking the
35
36 77 effectiveness of CQI interventions to the contexts in which they operate.
37
38 78 • Involvement of service providers, community-controlled peak bodies and
39
40 79 government health departments enhances opportunities for translation into policy
41
42 80 and practice.
43
44 81 • The in-depth exploration with six Indigenous health services in northern Australia
45
46 82 with a keen interest in quality improvement approaches may be difficult to directly
47
48 83 transfer to other settings.
49
50 84 • The diversity in population size, remoteness and governance models amongst our
51
52 85 sites and the relationship to findings reported elsewhere suggest that our findings
53
54 86 may have applicability in a range of under-served health care settings.
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87 **Keywords:** continuous quality improvement, primary health care, Aboriginal, systems
88 approach, implementation, quality of care.

89

For peer review only

90 **Background**

91 Achieving improvement in the quality of primary care on a broad scale is a challenge worldwide,
92 with evidence that there is a substantial gap between best practice as defined by clinical practice
93 guidelines and actual practice (1). Success in the implementation of complex interventions to
94 improve the quality of primary care is often patchy, with a 2016 systematic review finding that the
95 “fit” between the intervention and the context was often critical in determining intervention
96 success, although few studies reported sufficiently on the interaction between context and other
97 factors (2). Olivier de Sardan (2017) suggests that often interventions aimed at quality improvement
98 “travel” from country to country and are applied largely without consideration of the health system
99 context, thus limiting their effectiveness (3). Primary health care (PHC) services are themselves
100 adaptive systems and also operate within the larger complex adaptive health system (4).

101 Improving the quality of PHC provided to Aboriginal and Torres Strait Islander Australians is an
102 essential part of strategies to overcome Indigenous disadvantage (5). Although Continuous Quality
103 Improvement (CQI) processes appear to be successful overall in improving quality of care in primary
104 care (6), including in Aboriginal and Torres Strait Islander primary health care services (hereafter,
105 Indigenous PHC services; 7), there is very wide variability in response to these initiatives (8).
106 Understanding this variability and the systems and implementation factors that affect it is an
107 important step in improving the effectiveness of CQI on a broader scale, yet limited research in the
108 Indigenous PHC sector has previously addressed this issue.

109 In Australia, in remote areas there are government health services and Indigenous-specific PHCs
110 called ACCHSs, these offer tailored PHC to Aboriginal and Torres Strait Islander peoples. However,
111 the quality of care provided by such services, and the health outcomes achieved, vary significantly
112 between services (8). In response to CQI, some services consistently achieve relatively high
113 performance, apparently due to interplay between strong and stable organisations, good
114 governance and clinical leadership (9), which together with a supportive community and policy

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3 115 context facilitate perseverance with participation in CQI (7). In contrast, some services show limited
4
5 116 improvement (sometimes none), due to a range of interwoven implementation, resourcing and
6
7 117 community contextual factors, often the inverse of those underlying high performance. A growing
8
9
10 118 body of literature suggests common factors which facilitate positive responses to CQI initiatives.
11
12 119 These include: (a) whole of organisation culture and engagement (2, 10); (b) a health workforce that
13
14 120 is sufficient, stable and skilled (11-13); (c) strong data systems (14); (d) supportive linkages and
15
16 121 networks with the community and the broader health system (15, 16); and (e) stable, long term
17
18 122 funding with a supportive policy framework (9, 17). What is poorly understood, but so important for
19
20 123 Indigenous services, is how these systems factors interact with the specific socio-cultural and
21
22 124 historical contexts of Indigenous communities to affect quality improvement and how variability in
23
24 125 responses towards higher performance trajectories might be enhanced (2, 18).
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30 126 We conducted a project to explore this variability using a strengths-based approach, to learn from
31
32 127 Indigenous PHC services successful in improving the quality of care provided in response to CQI. This
33
34 128 paper reports how quality improvement is operationalised at these successful ("high-improving")
35
36 129 Indigenous PHC services, including the adaptation of strategies to cultural and historical contexts,
37
38 130 and systems factors that were important in producing the outcomes.
39

40 131 **Methods**

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42
43 132 A multi-case comparative case study design using quantitative and qualitative data was employed
44
45 133 with six case study sites in remote northern Australia and the Torres Strait. A participatory and
46
47 134 strengths-based research design was used to investigate how CQI worked at these high-improving
48
49 135 services and how systems factors affected CQI processes and outcomes. This design entailed working
50
51 136 collaboratively with the high-improving services (staff and service users) drawing on their strengths
52
53 137 and knowledge to contribute to understandings of CQI and the social and cultural dynamics of the
54
55 138 context. This is an appropriate design to investigate systemic health system patterns surrounding
56
57 139 CQI in the dynamic social setting of Indigenous PHC services (19).
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56 141 *Patient and public involvement*
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9 142 This study arose and questions were refined from discussions within a community-of-practice of
10
11 143 Aboriginal health peak bodies, services and researchers. Service representatives and community
12
13 144 members were included in a Learning Community, to guide and steer the conduct of the project.
14
15 145 Obtaining patient feedback about the success of quality improvement initiatives was critical to the
16
17 146 project, and interviews with services users and “boundary crossing” local health workers and
18
19 147 community members were obtained. Consistent with our participatory approach, feedback visits
20
21 148 occurred to each community to report findings from each site back to staff members and community
22
23 149 members.
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3031 151 *Study population and case sampling*
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34 152 ‘High improving’ services were identified by calculating quality of care indices for Indigenous health
35
36 153 services participating in the ABCD National Research Partnership. These indices were based on the
37
38 154 delivery of services against recommended guidelines for service provision during yearly audits in
39
40 155 four areas: maternal health, child health, preventive health and chronic disease (Type 2 diabetes
41
42 156 (T2DM)). Health service performance was calculated by deriving the proportion of guideline-
43
44 157 scheduled services delivered out of the total number of scheduled services for each audit tool in
45
46 158 each year of participation. Trends in performance over time was examined with services categorised
47
48 159 as ‘high-improving’ if they showed consistent ascending performance over at least two of the four
49
50 160 audit tools over three or more audits. Full detail on the categorising method is provided elsewhere
51
52 161 (20). Six health services that met the inclusion criteria of continuous high improvement and
53
54 162 included a spread of regional and rural services and mix of government of services and ACCHSs were
55
56 163 selected and agreed to participate in the current study.
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3 164 The characteristics of these six Indigenous health services categorised as high-improving in this study
4
5 165 are described in Table 1. All health services are located in northern Australia and five are located in
6
7 166 communities with a predominantly Indigenous population. Most of the services are situated in
8
9
10 167 remote locations with relatively small populations, fewer than 1000 people, but two are in larger
11
12 168 rural “cross-roads” towns with a larger, more mobile population with services offered to
13
14 169 communities across the wider area, often people living in very remote parts of northern Australia.
15
16 170 Three of the services are Government operated health services which means they are governed and
17
18 171 funded by the health department of the relevant state. Two of the services are Aboriginal
19
20 172 Community Controlled Services (ACCHS) which means the services are operated by the local
21
22 173 Aboriginal community to deliver holistic and culturally appropriate health care to the community
23
24 174 which controls it (through a locally elected Board of Management; 21). One of the case studies is a
25
26 175 health partnership between government operated health services and an Aboriginal Community
27
28 176 Controlled Health Organisation (ACCHO). The process for undertaking CQI audits and completion of
29
30 177 System Assessment Tools (SATs) differed across the high improving health services (Table 1). Some
31
32 178 of the services adopted a formal approach which involved all staff members, whilst in other services
33
34 179 they were facilitated by an external team with varied involvement from the health service staff (22).
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40 180 [Table 1 about here]

41 42 43 181 *Data collection*

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45
46 182 Four data sets were used for the case studies: (1) existing audit and systems assessment tool data;
47
48 183 (2) qualitative interviews with health staff, service users and external stakeholders; (3) health service
49
50 184 and workforce questionnaires completed by local managers; and (4) non-participant observation by
51
52 185 members of our team as recorded in field notes. Data were collected between 2015 and 2016 during
53
54 186 two or more visits to the sites. Multiple data sources were used to enhance data credibility and
55
56 187 develop a more holistic understanding of the high improving services (23). Interviews with local and
57
58 188 visiting health service staff and managers and regional managers explored the impact of contextual
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1
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3 189 factors and the interplay of systems factors (such as leadership, governance, resourcing and
4
5 190 workforce) on quality improvement in the service. Service users were asked about their history of
6
7 191 use of the service, what they thought about it and the staff, and improvements they might like to
8
9 192 see.

13 193 *Analysis*

16 194 The interviews were digitally recorded and transcribed. The analysis of qualitative interviews was
17
18 195 completed abductively (24), which is an inferential creative process of producing novel concepts; in
19
20 196 this study, about health system and implementation factors that support continuous quality
21
22 197 improvement in Indigenous health services. Within-case analysis was conducted first. Transcripts
23
24 198 and field notes were read by multiple team members and then coded by three team members into
25
26 199 NVivo qualitative data analysis software (QSR International Pty Ltd. Version 11) for each case. Codes
27
28 200 were derived deductively using the interview topics and were used consistently across the six cases.
29
30 201 Then, within each case, codes were amalgamated into themes developed inductively, identifying
31
32 202 underlying meanings apparent in codes. The themes for each case were visually displayed at the
33
34 203 macro, meso, and micro level and reported back to the health service team to refine the descriptive
35
36 204 model and conclusions.

41 205 Across-case analysis involved aligning similar and different themes for each case in a visual display.
42
43 206 Then similar themes across-cases were analysed together to determine the commonalities and
44
45 207 produce new themes. Themes that were unique to one service were retained. Concurrently, theory
46
47 208 and concepts about quality improvement, health systems functioning, and Aboriginal and Torres
48
49 209 Strait Islander community participation were reviewed to see if findings concurred with existing
50
51 210 concepts or whether new ones could be added. Discussion of both within-case and cross-case
52
53 211 findings took place with service partners (both individually and jointly) to assist with interpretation.

58 212 **Main Findings**

213 A total of 134 interviews were conducted across the six case study sites (Table 2).

214 **Table 2: Number of interviews conducted in each case study site (N=134)**

Site	1	2	3	4	5	6	Total
Health service staff	7	4	12	7	12	12	54
Health service user	9	6	10	8	8	10	51
External stakeholder	0	4	3	5	8	4	24
Total	16 (5)*	14 (5)*	25	20	28	26	134

215 ** A total of five regional stakeholders with common responsibilities for sites 1 and 2 were*
 216 *interviewed.*

217

218 Analysis of the case studies revealed a complex interplay of systems factors that were individualised,
 219 reflecting the context and circumstances of the service (Table 3). Some of these factors, common
 220 across most services, are consistently reported in the literature and some are novel. At the
 221 macrosystem level, the first group of factors commonly reported included: (1) linkages and
 222 partnerships with external organisations; and (2) supportive external health service policies. At the
 223 mesosystem, or health service level the common factors were: (3) health service CQI supports; (4)
 224 teamwork and collaboration; and (5) prepared workforce; whilst at the microsystem level the factors
 225 were: (6) consumers engaged with the service; and (7) caring staff (Figure 1). The novel factors
 226 found in most services at the macro system were: (1) understanding and responding to the historical
 227 and cultural context; (2) communities driving health improvement; and at the meso level, (3) two-
 228 way learning between health professionals and communities.

229 We also report on the perceptions of interviewees about the reasons for high continuous
 230 improvement at the service. The operationalisation of “two-way learning”, although it was not
 231 named as such, was found in three sites where there were high levels of interaction of the cultural
 232 and historical Indigenous context with the strategies for CQI.

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24 241 Each of these findings will now be described in turn.25
26
27 242 **Figure 1: Factors influencing CQI at high improving services**28
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33 244 **Factors influencing CQI at high improving services consistent with existing literature**34
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36 245 ***Macro level factors: Linkages and partnerships with external organisations***

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39 246 High improving services linked with external organisations to enhance the health care they were
40
41 247 providing, for example attending regional forums as part of the CQI support system. This occurred in
42
43 248 all the services although processes differed. Health professionals recognised that they did not
44
45 249 operate in isolation so engaged with local organisations and other health service providers. Some
46
47 250 linkages were informal or ad hoc based on local priorities and needs, and others were more formal
48
49 251 partnerships.

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53
54 252 *Where the different organisations across the Territory come together and we share data*
55
56 253 *and we share experiences, and quite often people have got really good processes ... it*
57
58 254 *turns out we're pretty much all addressing the same issues... Sometimes one of the other*
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3 255 *AMSs have started to deal with it [a problem] and make improvements that are*
4
5 256 *effective. And if you don't talk to them, you don't know. [Health service staff, site 6]*
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8 257
9 258 Working together was important for implementation and linked to a shared motivation or a
10
11 259 "collective intent" to improve the healthcare of the communities services were working with. Some
12
13 260 jurisdictions had a policy impetus that helped drive collaboration. However, the strongest theme
14
15 261 was ensuring health service users and the community received timely and appropriate care to
16
17 262 improve outcomes. Other reported benefits of working with external organisations included sharing
18
19 263 expertise, information, and improved relationships with clients and community.
20
21
22

23
24 264 *And it shows – the clients are getting better outcomes. As an example, we've had difficulty*
25
26 265 *with patients that can't get dialysis here...We don't have the capacity to just start plucking*
27
28 266 *money out of anywhere to send individuals back for dialysis. Neither do [service name] but*
29
30 267 *between us being very creative about who's going to [local town] what services are travelling*
31
32 268 *between [local town], how we can utilise whatever's happening between our three services*
33
34 269 *and in the community. [Health service staff, site 3]*
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38 270 **Supportive external health service policies**

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41 271 Health service policies from the state level (i.e. Queensland Health, Western Australia Health and
42
43 272 Northern Territory Health) and national level health departments provided an overarching
44
45 273 framework within which the health services operated. In some jurisdictions, external health service
46
47 274 policies at the macro level were supportive of CQI. In supportive contexts there was provision of
48
49 275 leadership through the appointment of regional CQI coordinators working across multiple services;
50
51 276 training for health service staff with funding to attend CQI workshops; and workforce policies and
52
53 277 tools to facilitate CQI in the health services.
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57 278 *We have received a lot of support from central – from NT Health. We are able to access*
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59 279 *the CQI coordinator if we need to, to get some advice... We have at least an annual*
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3 280 *meeting for the CQI Facilitators, where they're developing up specific skills that they can*
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5 281 *then teach to the teams that they work with. [Health service staff, site 4]*
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10 283 *There's the concept of the Traffic Light Report that's coming out now ...We also noticed*
11
12 284 *that we're making improvements if we look at the previous three or four reports and the*
13
14 285 *colours are changing! So that was a really good thing to see and even though things*
15
16 286 *aren't great in all areas yet, the fact is we're trending up in morale. [Health service staff,*
17
18
19 287 *site 4]*
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21 288
22 289 Health services located in one of the jurisdictions where there had been less consistent central
23
24 290 leadership and support had generated local solutions for CQI.

25
26 291 *I think we're doing a lot of good stuff that is not really captured...and when I start*
27
28 292 *talking about things, 'what have you done?' 'How can we do this better?' 'Oh no, no,*
29
30 293 *we've already got this process and that process and we're doing this.' And it's*
31
32 294 *fascinating to see them light up when they realise that they are actually doing a lot of*
33
34 295 *improvement and they didn't see it as such. [External stakeholder, Sites 1 & 2]*
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41 297 ***Meso level factors: CQI systems and supports at health service level***
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44 298 Having appropriate systems and support at the health service level was vital for CQI in relation to
45
46 299 embedding CQI into daily activities. Interviews with health service staff from high improving services
47
48 300 indicated that effective CQI systems and support included: information technology (IT) systems
49
50 301 integrated with the electronic medical record for recalls; templates to assist people to reliably and
51
52 302 objectively record data; regular production of quality reports and audit data; and team meetings
53
54 303 with a focus on quality improvement.
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3 304 *I suppose the greatest thing, all your notes are in one place - everyone's notes. So it*
4
5 305 *opens it up – doesn't matter where they turn up. Coz everyone's seeing the same screen*
6
7 306 [Health service staff, site 6]
8

9
10 307 All services had CQI systems in place but how these were implemented differed slightly. In some
11
12 308 health services it was very structured and standards driven.
13

14
15 309 *Whereas for us, our core business is acute care and our continuing quality improvement*
16
17 310 *is set at a national standard.* [External stakeholder, site 3]
18

19
20 311 In other services, formal systems ran in parallel to very practical and community-driven systems. For
21
22 312 example, one community-driven process ensured that yearly health checks are conducted in the
23
24 313 month of the resident's birthday. This spread the clinic's workload across the year but also ensured
25
26 314 coverage while making health screening and vaccination routine, non-intrusive, and efficient.
27

28
29 315
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31
32 316 CQI systems and supports were viewed positively and promoted a routine and culture of CQI.
33
34 317 Some health service professionals reflected on CQI in terms providing appropriate and timely care.
35

36
37 318 *What is particularly effective is to be able to effectively gather statistical information*
38
39 319 *which is what we're using and so that's really good, to be able to press a few buttons...I*
40
41 320 *do a lot of recalls and the nurse would do a print out of all our recalls and I'll follow*
42
43 321 *them [clients] all up and try and get them in.* [Health service staff, site 4]
44

45 322 **Teamwork and collaboration: shared focus**

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48
49 323 A striking feature of these high improving services was staff commitment to working together
50
51 324 towards the same end – improved health for the clients and the community. This was expressed in a
52
53 325 variety of ways. Perhaps the most obvious was “*We all know why we are here,*” meaning that all
54
55 326 staff at the health centre had a shared commitment to improving health outcomes. Furthermore,
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3 327 evident in the high improving services was the connection between teamwork and continuous
4
5 328 improvement and involving the whole team in CQI.
6
7

8 329 *And you could just see a lot of the junior staff really listening and starting to switch on*
9
10 330 *and go, 'okay. So there's more to me than just answering the phone.' And, 'this is how*
11
12 331 *I've contributed in this area and that area...and this is our actual purpose. This is what*
13
14 332 *we're really here for.* [Health service staff, site 5]
15
16

17 333

18
19 334 In several services, staff were perceived to be “*passionate about quality*”, meaning that
20
21 335 opportunities for improvement were sought out and embraced. Importantly, these passionate staff
22
23 336 were able to inspire others towards the joint intent to improve the health of individuals and the
24
25 337 community as a whole. “*How can we improve the community's health?*” was a mantra in one service
26
27 338 and others shared similar themes.
28
29

30
31 339 *The CQI is something which is best done when someone's interested in it and hopefully*
32
33 340 *passionate. And we do have that fortunately, but when someone actually likes it and*
34
35 341 *particularly when they get the feedback that they're improving things, they can see the*
36
37 342 *difference that it's making.* [Health service staff, site 4]
38
39

40 343

41 344 Building teamwork for CQI required leadership to drive and facilitate activities such as team
42
43 345 meetings, shared decision making and support networks. One health service described their
44
45 346 strategy of bringing together groups of people as teams to do the CQI audits. Another health service
46
47 347 brought together remotely located health professionals to discuss CQI at weekly teleconferences.
48
49

50
51 348 *But you know, we have that collaborative team approach across everything. We also*
52
53 349 *collaborate strongly with our remote clinicians so we give them the opportunity to be*
54
55 350 *involved in decision-making around quality so they're engaged every Friday mornings so*
56
57 351 *basically like a team meeting, with a quality focus.* [Health service staff, site 5]
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3 352
4 353 In many of the services, CQI was embedded in how they operated and was everybody's business.
5
6 354 The comment below illustrates one service's team approach, searching for ways to improve and
7
8
9 355 analysing data in a way that guided areas for improvement.

10
11 356 *Yeah so it actually becomes quite good and everybody gets involved and has a look. If*
12
13 357 *something isn't working properly you fix it... We look at it and work out what we need to*
14
15 358 *change from spreadsheets for chronic disease, where your shortfalls are. 'Coz if you*
16
17 359 *don't do that sort of stuff, you can't actually see what the problem is. We had a session*
18
19 360 *a few weeks ago with spreadsheets, graphs and pie charts, and even the doctors are*
20
21 361 *surprised at what they haven't been doing.* [Health service staff, site 4]
22
23 362

24
25 363 Two more reasons frequently expressed for working as a team that were: i) the enormity of the task
26
27 364 to improve Indigenous health and pressure to get it right because it mattered to them personally. As
28
29 365 stated by one staff member, *'You know this is chronic disease data to you' I said, 'but to me it's my*
30
31 366 *families.'* [Health service staff, site 3]; and ii) the valued mix of skills held by Indigenous staff and
32
33 367 balancing those held by non-Indigenous staff.

34
35 368 *It's good to see the Indigenous people really involved in the organisation. It makes a lot*
36
37 369 *of Aboriginal people feel more relaxed - more comfortable with using the service.*
38
39 370 [Health service staff, site 6]
40
41 371

42
43 372 Thus it was a collective intent and action rather than just an individual attribute that acted as a
44
45 373 motivator supporting the development of shared goals and objectives and improved health
46
47 374 outcomes for service users.

48
49 375 *We've structured everything so everyone's involved. So likewise with primary health care*
50
51 376 *governance – everyone's involved and that was always... But it's always with a*
52
53 377 *collaborative approach if that makes sense....* [Health service staff, site 5]
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3 378 ***Prepared and stable workforce for CQI***
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6 379 Interviews with health professionals and stakeholders revealed a pragmatic understanding about
7
8 380 requirements for the health workforce. Characteristics of a prepared workforce included stability;
9
10 381 appropriate orientation; a mix of Aboriginal and non-Aboriginal staff; trusting relationships, and
11
12 382 supportive leadership. Many of the services had long-term staff and those stable staff had
13
14
15 383 developed deep knowledge and understanding about the communities they were working in and
16
17 384 with that appropriate ways to deliver primary health care.

18
19
20 385 *The advantage they have is that they have a more stable staff and going right through*
21
22 386 *from their reception staff to their clinical staff. They've got staff who really understand*
23
24 387 *about how to deliver primary health care programs ...they have to think hard about how*
25
26 388 *they do that for both an Indigenous population and a non-Indigenous population.*

27
28
29 389 [Health service staff, site 4]

30
31 390 These comments suggest that staff stability enabled trusting relationships and embeddedness to
32
33 391 facilitate improvement in health care, perhaps reflecting also on understanding the care system and
34
35 392 having the maturity and confidence to make small changes for the benefit of service users. However,
36
37 393 striving for workforce stability was a challenging space for most services, so some had developed a
38
39 394 range of pragmatic strategies to increase preparation and support.

40
41
42
43 395 *...it's a challenging space and although we strive for this stability, the trade-off is you*
44
45 396 *know, if people stay too long that's a challenge as well. And you kinda find the balance*
46
47 397 *between having a really well prepared workforce and being able to support that really*
48
49 398 *well prepared workforce and then having a workforce that are tired and a bit*
50
51 399 *disgruntled and are struggling in this space.* [Health service staff, site 5]

52
53
54 400 Linked to a stable workforce was the mix of Indigenous and non-Indigenous staff. Some health
55
56 401 professionals observed that Indigenous staff were likely to stay longer as they were locals living in
57
58 402 the community/local area. Locally-based Indigenous staff were knowledgeable about the
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1
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3 403 community and local culture, and this knowledge was respected. In addition, the retention of locally
4
5 404 based Indigenous staff gave the community a sense of ownership and users of the service felt that
6
7 405 staff knew the community well.
8
9

10 406 *And our Aboriginal staff stay a lot longer because they're local. ...The fact is there are a*
11
12 407 *lot of locals working here - that's a good thing too. It is their resource base within the*
13
14 408 *community. It also gives the community a sense of ownership over the Health Services as*
15
16 409 *well, knowing that they've got locals working in there. [Health service staff, site 6]*
17
18
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20 410

21
22 411 ***User and community engagement with the service***
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24
25 412 User and community engagement with the health service was frequently cited as influencing how
26
27 413 CQI was enacted across the participant health services. Health service users commented on having a
28
29 414 good relationship between the health service and the community it served.
30
31

32 415 *...well they're doing everything all alright. They get along with the community people.*
33

34 416 *They go around, they have a yarn to people. If they need to chase someone down, they*
35
36 417 *go and do that. Everything's going good. [Health service user, site 5]*
37
38

39 418 The mechanisms reported and observed for health services engaging with users and the community
40
41 419 varied. For some services, these related to engaging in the monitoring of their health at both the
42
43 420 individual and group level. In other health services it was related sitting down together with
44
45 421 community and asking the question 'How do we improve services?'

46
47 422 *We go out yearly and hold open community meetings. So us as management staff will*
48
49 423 *go out, put ourselves in front of the community um...we'll give an update on what we've*
50
51 424 *done for the last twelve months and then we open that up to the community and our*
52
53 425 *performance review begins at that point. You tell us from a grass roots perspective,*
54
55 426 *what we've been doing right and what are our challenges and if we've got challenges*
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3 427 *then [they] will certainly let us know. ...and at that grass roots level, it's about sitting*
4
5 428 *down and talking. [Health service staff, site 5]*
6
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8 429

9
10 430 Other comments from health professionals focused on the importance of developing a connection
11
12 431 with community and their culture. All services worked with or in their communities and drew on
13
14 432 strong place-based family connections. These connections supported CQI when there was open
15
16 433 communication between health centre staff, community members, and other key people about
17
18 434 community views, aspirations, and health issues.

19
20
21 435 *One of the 'hooks' for Aboriginal people to get involved in the health services was the*
22
23 436 *Aboriginal and Torres Strait Islander health checks – just around the engagement with*
24
25 437 *the families getting families in, getting them engaged. It was going in the right direction*
26
27 438 *and it is working on a large community development program- because people say*
28
29 439 *family health but I see it as community development....you gotta have that engagement*
30
31 440 *side of things kind of grounded down I think. [Health service staff, site 6]*
32
33
34
35 441

36 442 **Microsystem factors: "Going the extra mile" and staff caring, commitment**

37
38
39 443 This theme was characterised by health service users as getting personalised service from health
40
41 444 professionals with health service staff going the extra mile. Users of the health service commented
42
43 445 that the personalised service made them feel comfortable and safe, and fostered a trusting
44
45 446 relationship with the health care provider.

46
47
48 447 *I feel comfortable and every time I come here... they've got all these different little*
49
50 448 *changes that happen now and then with the office and stuff it makes you feel really -*
51
52 449 *could you say, at home. [Health service user, site 6]*
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54
55 450

56
57 451 In all services, clients acknowledged the hard work that staff put in. One interviewee described this
58
59 452 as 'going the extra mile'. The commitment of staff to improve the health of the communities was
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1
2
3 453 also evident from interviews with health service users. Service users described health service staff
4
5 454 as 'taking their duty of care seriously' and being proactive and supportive.
6
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8 455

9
10 456 *They go that little extra mile I think to do those extra things like the afterhours*
11
12 457 *events....The staff always try their best and to help you out. They're on call so if you need*
13
14 458 *to see them after hours they're quite happy to do that....Most of the ones that we get*
15
16 459 *here genuinely care for people and it's more than just a job. [Health service user, site 1].*
17
18
19 460

20
21 461 Overall, one important factor that services users and those people external to the service
22
23 462 noted was the trusting relationships that had been established between service users and
24
25 463 health professionals.
26

27
28 464 *We have rare, very passionate committed, hardworking [names] that worked out here.*
29
30 465 *And the fact that if you have the same person and the community get to know that*
31
32 466 *person, they get to trust them, they build up that [trust]- which we know takes a while*
33
34 467 *in Aboriginal communities. [Health service staff, site 3]*
35
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37 468

38 39 469 **Novel factors contributing to CQI**

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43 471 Along with the factors that are well known to assist in implementing CQI were three factors
44
45 472 that are less frequently reported on but were fundamental in these Indigenous communities.
46
47
48 473 These were: understanding and responding the historical and cultural context in which the
49
50 474 service was located; "two-way" learning between health professionals and communities; and
51
52 475 communities driving their health.
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3 479 **Macro level: Understanding and responding to historical and cultural context**
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8 481 The importance of culture and history of Indigenous and non-Indigenous people associated with the
9

10 482 health services cannot be underestimated and was made explicit during interviews at three sites.
11

12 483 Understanding culture involves understanding the ways things are done, the importance of
13

14 484 relationships, how to exchange ideas, how to pass news, and how the family systems function. All
15

16 485 these aspects are fundamental to health improvement. It was thought that *“people need to, before*
17

18 486 *they go and talk to people, they really need to sit back and understand their ways first. They need to*
19

20 487 *know their audience”*. [Health service user, site 2]
21
22

23 488
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25 489
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27
28 490 The historical backdrop includes the history of colonization, the history of the establishment of the
29

30 491 ‘community’ and from a historical perspective, the way in which health services have been provided.
31

32 492 A staff person at one of the centres thought that understanding the history of the community in
33

34 493 which the health service was based was fundamental to quality health service delivery.
35
36

37 494
38

39 495 *[to understand our effective health service delivery] I like to go back to history. I think it’s*
40

41 496 *related to the history of the island – the people who ran the islands and the people that I’ve known*
42

43 497 *all these years that have functioned in the ancestral histories and backgrounds.*
44

45 498 *[Health Service Manager site XX]*
46
47

48 499
49

50 500 With regard to the importance of culture one Indigenous health practitioner put it this way.
51

52 501
53

54 502 *“Our culture is our foundation here. It - you go out of your bounds you know -*
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3 503 *morally inside you don't feel right. I mean with [community controlled health service] I think*
4
5 504 *they understand that with most of the Board Members they are our family as well". [Health*
6
7 505 *service manager, site 5]*
8
9

10 506
11
12 507 This person referred to the strength of the foundation of culture and inducting practitioners into this
13
14 508 approach. *"We have a pretty big focus on cultural safety and cultural security in the organisation.*
15
16 509 *People get hammered at cultural orientation. If an issue arises, we'll nip it in the bud pretty well*
17
18 510 *straight away."* [Health service manager, site 5]
19
20

21 511
22
23 512 In another service the rule of culture was referred to as underpinning all aspects of life including
24
25 513 healthcare.
26
27

28 514
29
30 515 *"the rule of culture is vitally important 'coz it's everything I guess ... culture is pretty much our*
31
32 516 *belief. Bottom line. What we believe and you can't negate culture from anything that happens*
33
34 517 *...the important thing is people understand those beliefs and how do we best balance those*
35
36 518 *things in a way that will be productive going forward". [Health service user, site 2]*
37
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41 520
42
43 521 In this context, maintaining a deep understanding of their community and clients was integral to
44
45 522 how services operated and came from motivations to improve care for clients (community) and
46
47 523 improve health outcomes. The embeddedness in Aboriginal and Torres Strait Islander culture in
48
49 524 these high improving health services was reflected how they approached engaging with service users
50
51 525 and the wider community.
52
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54 526
55
56 527 *Find out their story because that'll give you a rough indication of where things are with*
57
58 528 *these people that you're working with. [Health service user, site 3]*
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3 529
45 530 **Meso level: “Two way learning” for CQI**
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9 532 A second factor about which there is little knowledge in the CQI literature is “two-way” learning,
10 533 perhaps because it reflects more of a process. Health service staff (both Indigenous and non-
11 534 Indigenous) that were more responsive to the historical and cultural context talked about how they
12 535 integrated their knowledge about effective healthcare and CQI processes with Indigenous
13 536 community family sensitivities, obligations and traditional ways. This was described by an Aboriginal
14 537 staff member as “two way” learning. In several of the services, Indigenous cultural knowledge was
15 538 blended with health professionals’ expertise.

16 539
17

18 540 *Well I think having the Aboriginal health workers on board. It’s that two-way learning and I’m*
19 541 *a believer of two-way learning and that is between health workers and the doctors. At the*
20 542 *moment we have a good quality number of doctors as well. The health worker numbers varies*
21 543 *- I’ve only got four in the clinic but they do the best to their ability and sometimes they get*
22 544 *highly strained and stressed. [Health service staff, site 6]*

23 545
24

25 546 Another non-Indigenous staff member was able to describe two-way learning that was practiced in
26 547 the health centre that this person was associated with.

27 548 *I always like to use the word “tuning in” – tuning in to people. Different frequencies. Listen to*
28 549 *them. Understanding them and I can utilise my knowledge with their knowledge to bring a*
29 550 *level of half understanding between [us]. [Health service staff, site 2]*

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32 552 Two way learning requires a great deal of sensitivity amongst “mainstream” health professionals.

33 553 One health professional describes some of the challenges in terms of genuine engagement in two-
34 554 way learning within a Western mainstream environment.

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3 555 We [health service] want to employ them because they're local. They know the language, they
4
5 556 know the culture. But then once they get in there, they just become more or less a lackey and
6
7 557 they're expected to work within the mainstream way of doing things and I think that makes it
8
9 558 very difficult for an Aboriginal to excel – especially in a mainstream environment. [Health
10
11 service staff, site 2]
12 559
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14 560

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16 561 **Macro level: Community driving health (care)**
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19 562

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21 563 There were instances in two different services of communities explicitly driving their health care. In
22
23 564 one location this occurred through a formal structure – the health committee with membership of
24
25 565 health centre staff, staff of other organisations, community leaders, and citizens. The committee
26
27 566 depended on relationships and networks built around trust and shared intent to improve the
28
29 567 communities' health. In this case, the relationships were longstanding. It also depended on a 'whole-
30
31 568 of-community' approach to health that was integrated into daily life. "Serving our people" was a
32
33 569 theme that ran through stories of health care and of whole of community involvement. The
34
35 570 comment below from a service user describes how participation in the health committee has had a
36
37 571 positive impact in terms of community taking control of their own health.
38
39
40

41 572

42
43 573 *This is a [state department] clinic, but it is on [location] – it is our community. So the focus on*
44
45 574 *community taking control of their own health is something we've tried to do; so we've come a*
46
47 575 *long way to where we are. I'm glad that it's evident and it shows how well we function.* [Health
48
49 576 service user, site 2]
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52 577

53
54 578 Another example of communities driving health was the implementation of an Indigenous model of
55
56 579 healthcare for chronic illness, called the family approach. It involved considering the family and
57
58 580 community as the unit of care rather than the individual.
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3 5814
5 582 *...the family approach model requires the involvement of the whole of the primary health team*6
7 583 *and the community in - I guess probably not a clearly expressible fabric of interaction. But*8
9 584 *perhaps the essential component of it is around a health service agent and in this case it's*10
11 585 *been the family GP. A health service agent who engages with a broader family unit so it will be*12
13 586 *the oldest in the community and their siblings and partners and their children and siblings and*14
15 587 *partners and their children and siblings and partners. [External stakeholder, site 3]*16
17 58818
19 589 The explicit motivation for the introduction of this alternative approach to healthcare was to20
21 590 improve Indigenous health, particularly around chronic illness. It was energetically driven by an22
23 591 Indigenous manager of an Indigenous health service with strong links with the community.24
25 59226
27 59328
29 59430
31 59532
33 596 **The perceptions of staff and service users about why the services were high performing.**34
35 59736
37 598 Prior to the interview conclusion, participants were asked why they thought their service was38
39 599 continuously improving. Overwhelmingly the responses coalesced around the calibre of the staff at40
41 600 the services; their professionalism, energy, commitment, and stability. In each of the services,42
43 601 people gave staff actions in CQI as the reason for high continuous improvement, persistence in44
45 602 follow up, enjoying the challenge of providing a “decent level of care for people” and staff46
47 603 dedication to managing a challenging job.48
49 60450
51 60552
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3 605 *I think they do a challenging job, with the resources they have. The staff they stick it out. 'Coz if*
4
5 606 *someone's really sick, the only way off is by helicopter. And it's only the one chopper and if*
6
7 607 *they're busy, they may not get here.* [Health service user, site 1]
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10 608
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12 609 *In terms of insights, why we improved so much –we have very good staff.* [Health service staff,
13
14 610 site 5]
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16 611
17
18 612 *I'd have to go back to my colleagues [to give the reason for improvement] – they're pretty*
19
20 613 *dedicated.* [Health service staff, site 3]
21
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23 614
24
25 615 Another theme, but less frequently mentioned was the engagement of the health service with the
26
27 616 community.
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29 617
30
31 618 *But they also engage well with the community and they have the trust of the community and*
32
33 619 *that makes a big difference.. they're also pro-active in.. engaging the community with health*
34
35 620 *care.* [Health service staff, site 1]
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40 622 Finally, having a supportive environment for CQI, again linked to aspects about the staff, but also
41
42 623 being part of a well-functioning team was said to be related to high levels of continuous
43
44 624 improvement.
45
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47 625
48
49 626 *I think a supportive environment is good....and everyone participating and everyone being a*
50
51 627 *team player and ...everyone takes responsibility so it's just sort of doesn't fall to one person...*
52
53 628 *so just keeping it supportive and ...and everyone's responsibility.* [Health service staff, site 4]
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59 630 **Discussion**
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5 632 This project explored in detail how CQI was operationalised at six Indigenous primary health care
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7 633 services classified as “high-improving” services in response to CQI audits. Consistent with health
8
9 634 systems thinking there was interrelationship and interdependence of components including
10
11 635 policies, technical support systems, service providers and users (25). Whilst these services were
12
13 636 distinctive in the details of how they operated, there were also common factors in how they
14
15 637 operationalised CQI. Common themes amongst the services align with those previously reported
16
17 638 and with existing chronic care models, particularly those at the mesosystem or health service
18
19 639 level: CQI supports and systems within the health service, teamwork and collaboration (including
20
21 640 supportive leadership); and a stable and well-prepared workforce. Adding to our conception of
22
23 641 how CQI works in practice are some novel themes not often reported on in the literature. These
24
25 642 are: i) embeddedness in the local historical and cultural context; ii) two-way learning between
26
27 643 community and health professionals for CQI; and iii) the community “driving” health
28
29 644 improvement at the local level through joint planning, monitoring, and implementing new
30
31 645 Indigenous approaches to healthcare. Attention to these less-tangible elements introduces
32
33 646 additional complexity to how quality might be defined for health care providers working in
34
35 647 Indigenous health.

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43 649 The finding that cultural embeddedness and responsiveness to the historical and cultural context
44
45 650 was a hallmark for these high improving services is important for two reasons. First, it confirms
46
47 651 the importance of community-control or strong community engagement in health services in
48
49 652 Indigenous communities but also provides a rationale for state run or private practices to embed
50
51 653 services in the cultural context. Second, the current move to include a component of community
52
53 654 feedback in quality assessment and accreditation is not comparable in either intent or scope with
54
55 655 what is expressed as cultural embeddedness by respondents in this project.

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3 657 Services selected for case studies included both community-controlled health services and
4
5 658 those provided through government services. Previous quantitative analysis by the project
6
7 659 team demonstrated that a pattern that defined a “high-improving service” was not simply
8
9 660 explained by governance model, community size or remoteness (20). The model for
10
11 661 community-controlled health services has cultural embeddedness and mechanisms for
12
13 662 responding to community input at the core of their existence (although in practical terms how
14
15 663 effectively this is operationalised can vary; 21). However, this study suggests that cultural
16
17 664 embeddedness or responsiveness is fundamental for all services that aspire to offering high
18
19 665 quality care to Indigenous people, and that government services can also establish mechanisms
20
21 666 (formal or informal) for seeking direction from Indigenous community members and ensuring
22
23 667 mechanisms for meaningful input into the operations of the health service.
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30 669 Closely related to the finding about the importance of embedding CQI in the Indigenous cultural
31
32 670 and historical context is the concept of “two-way” learning. Our participants, both Indigenous
33
34 671 and non-Indigenous, reported on their understanding of “two-way” learning as a melding of
35
36 672 health professional technical knowledge with a deep understanding and respect of the
37
38 673 community’s customs, rules, and relationships. This was reported as ‘tuning in to people’.
39
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41 674

42
43 675 This is a very different concept than that of “community capacity building” which is regularly
44
45 676 referred to in health systems strengthening (26). Two-way learning has no presumption that it
46
47 677 is the health professional that is doing the capacity building and the community that is having
48
49 678 their capacity built in order to participate (27). The dominance of western-centric models of
50
51 679 health and health care requires that for true two-way learning there is an emphasis on health
52
53 680 professionals trying to see outside their own cultural frameworks. As Makuwira (2007) puts it,
54
55 681 because of the strength of Western ways of doing things we need to develop appropriate
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3 682 mechanisms through which a middle ground can be achieved, that is, a give and take between
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5 683 health system personnel on one hand, and Indigenous communities on the other (28).

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10 685 The other novel concept that emerges from our study is that of the community driving health
11
12 686 care. We note that health systems thinking includes the population that the health system
13
14 687 serves (29). Usually though, a component such as a community is not perceived as a powerful
15
16 688 actor influencing implementation of CQI. However, it is not uncommon to observe so-called
17
18 689 “activated” communities powerfully solving health issues through planning, devising alternate
19
20 690 program or advocacy, especially in association with Aboriginal Community Controlled Health
21
22 691 services (30). Capturing the concept of communities actively driving their health, usually in
23
24 692 association with trusted health professionals, might be better done through using the term co-
25
26 693 production. Co-production means delivering public services in an equal and reciprocal
27
28 694 relationship between professionals, people using services , their families and their neighbours
29
30 695 (31). The equal and reciprocal relationship is at the heart of co-production.

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36 697 The findings about the importance of understanding culture, two way learning, and community
37
38 698 driving, were not amongst the factors staff reported on when we directly asked health centre
39
40 699 staff and users their perceptions of the reasons for high performance. Perhaps this could be
41
42 700 associated with the mental maps held by participants of their CQI health system elements and
43
44 701 the interaction (32). Alternatively, it might be that in these high-improving services there is
45
46 702 implicit knowledge shared by staff, and thus not thought worthy of comment.

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50 703

51 52 704 **Implications of study**

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54 705 These findings have implications in terms of practical interventions to strengthen
55
56 706 implementation of quality improvement at a broad range of Indigenous PHC services. Levesque
57
58 707 and Sutherland (2017) have recently published a conceptual framework of levers for change in
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3 708 healthcare, with the eight identified levers varying along axes of sources of motivation (internal
4
5 709 to external) and origin of change (emergent to planned; 33). Recent work in quality
6
7 710 improvement in primary care has focused considerable attention on audit data and how best
8
9 711 this can be presented for understanding and implementing change through a series of Plan, Do,
10
11 712 Study, Act (PDSA) cycles and then used for broader implementation (34). Strategies to support
12
13 713 this fall mostly under the formative and supportive levers as outlined by Levesque and
14
15 714 Sutherland (33). Whilst undoubtedly important, ongoing variability in response to existing CQI
16
17 715 initiatives (35) suggest that there is now also a need to broaden attention to include the
18
19 716 broader organisational and interpersonal factors important in achieving change, with services
20
21 717 utilising levers from all four quadrants more likely to achieve sustainable changes in quality.
22
23 718 This broader perspective to strengthen PHC is also echoed by the WHO Astana Declaration on
24
25 719 Primary Health Care (36) which states that in addition to system and organisational drivers -
26
27 720 building capacity, sharing knowledge and empowering individuals and communities to take
28
29 721 ownership are key to success in PHC. According to our data, key amongst these factors is
30
31 722 harnessing a shared interest in CQI amongst a wide range of staff, managers and community
32
33 723 members through their joint interest in improving health outcomes for the community. This
34
35 724 genuine and deep motivation about real people that underpin the data and figures was noted
36
37 725 by health service providers. A good example of recognising and fostering joint endeavour and
38
39 726 organisational change is the "CQI is everybody's business" slogan that is synonymous with the
40
41 727 successful Northern Territory CQI Collaboratives. The motivation for community members is
42
43 728 poignantly expressed in terms of health of family members.
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53 730 Specific initiatives to enhance the effectiveness of existing CQI initiatives might involve:
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55 731 recruiting and supporting an appropriate and well prepared workforce (through appropriate
56
57 732 orientation and support materials); training in leadership and joint decision-making; supporting
58
59 733 and expanding the role of regional CQI collaboratives; and developing workable mechanisms for
60

734 two-way community engagement. Some of these recommendations for policy and practice are
735 outlined in more detail in Box 1.

736 Support the health workforce to develop two-way relationships with community
737 members so improvement processes are embedded in culture and genuine
738 engagement.

739 Facilitate a prepared and stable workforce with attention to optimising the Indigenous
740 and non-Indigenous workforce mix in staff recruitment, orientation and retention.

741 Ensure that health service operational and IT systems support the routine practice of
742 CQI by all health service staff.

743 Institutionalise a quality improvement approach through collaborative decision-making
744 and embedding CQI in orientation, staff training, regular team meetings and regional
745 partnerships.

746 Make the purpose of quality improvement explicit and shared with a focus on
747 improving client care and health outcomes.

748 **Box 1. Recommendations for policy and practice**

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750 **Strengths and limitations**

751 This research has focused on learning from in-depth study of a sample of six Indigenous PHC
752 services across northern Australia. All services were selected based on sustaining high
753 improvement in more than one audit tool over at least two cycles in CQI initiatives. We
754 aimed to understand how these services operationalised quality improvement, “the secrets
755 of their success” at a local level. This focus on depth rather than breadth in numbers of
756 services necessitates some caution in generalising from the findings, however, a number of
757 factors enhance confidence that the findings are likely to have wider applicability across a
758 broader range of Indigenous PHC services, particularly those in northern Australia and
759 outside major cities. The participating services were broadly representative of a range of

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3 760 service types, included three jurisdictions, a range of community sizes, rural and remote
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6 761 communities and both government and Aboriginal Community Controlled Health Services.
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8 762 Some were extremely isolated and discrete services, but two of them were major
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10 763 “crossroads” communities, located at transport intersections, with a range of language
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12
13 764 groups and communities attending the service. Thus, findings are likely to be generalizable
14
15 765 to some extent within the Australian Indigenous PHC context. The principles identified in
16
17 766 working with vulnerable and marginalised communities to engage them in ownership efforts
18
19 767 to improve their health and acknowledge their cultural beliefs are likely to be applicable to
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21
22 768 in many other parts of the world.

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26 769 In addition, a strength was the large number of interviews (134), and the involvement of
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28 770 Aboriginal researchers in both data collection and interviews and in the analysis of the
29
30 771 qualitative data. Involvement of key stakeholders from the participating service as part of
31
32 772 the project team has enhanced the rigour and trustworthiness of our analysis and
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34 773 enhanced the two-way learning embedded in our partnership approach to research.
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38 774 **Conclusions**

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42 775 Services successful in improving quality of care: i) make CQI “everyone’s business” by
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44 776 involving a wide range of stakeholders, including community; and ii) make explicit that CQI
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46 777 supports a shared focus on improving client care and health outcomes. The services
47
48 778 involved active, visible and actionable engagement and input with and from the community
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50 779 as part of this process. These findings suggest that in order for CQI to deliver the desired
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52 780 outcomes, it is important to focus not only on “what” is done and by whom, but also the
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54 781 underlying assumptions and processes about how it is done and the role of the community
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56 782 in shaping these processes. The next step is identifying and implementing modifiable levers
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3 783 at each level of the system to use in implementation studies with services that are striving
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6 784 to improve their quality of care in response to CQI.
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15 788 **List of abbreviations**

18 789 CQI – Continuous Quality Improvement

22 790 PHC – Primary Health Care

25 791 ACCHS – Aboriginal Community Controlled Health Service

28 792 **Declarations**

31 793 Ethics: This work received ethical approval from Menzies/Top End Human Research Ethics

34 794 Committee, from Queensland Health, from the Kimberley Aboriginal Health Forum and Western

36 795 Australian Country Health

39 796 Availability of data: Qualitative data is held by the research team at James Cook University. Audit

41 797 data is held by the CRE-IQI and available on request.

44 798 Competing interests: No competing interests were identified.

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57 803 from the participating services and our colleagues from the CRE-IQI who have helped shape our

59 804 thinking.
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806 Author contributions

807 SL, RB, VM, KCopley and ST conceived of the idea. NT, KCarlisle, JT and SL were all involved with
808 data collection and analysis. SL, RW, KC, SC RB, ST, VM were involved in planning the project. All
809 authors have reviewed and approved the final manuscript.

810

For peer review only

Site	State	Governance	Rurality	Population	% identify as Indigenous	High improvement in	Conduct of CQI audits and SAT tools
1	QLD	Government	Remote	<=500	92	T2DM Maternal	<ul style="list-style-type: none"> • CQI coordinators have conducted the CQI audits each year from 2011-2013 • In 2014 QLD Health ceased investment in CQI audits • The 2015 audits were facilitated by the project team • SAT tools: completed by cluster coordinator • Goals for improvement are not set, shared or implemented with local staff
2	QLD	Government	Remote	<=500	99	T2DM Preventive Child Health	<ul style="list-style-type: none"> • CQI coordinators have conducted the CQI audits each year from 2011-2013 • In 2014 QLD Health ceased investment in CQI audits • The 2015 audits were facilitated by the project team • SAT tools: Feedback sessions with the cluster coordinator - local staff develop and implement goals for improvement.
3	WA	Government/ACCHO partnership	Remote	>=1000	66.5	Maternal T2DM	<ul style="list-style-type: none"> • Senior staff from regional population health unit conduct the audits • SAT tools: Based on data from the partnership's health care centre and conducted by an external facilitator
4	NT	Government	Regional	501-999	23	Maternal Preventive	<ul style="list-style-type: none"> • Health service manager organises and conducts the CQI audits with the assistance of all other clinical staff • SAT Tools: all staff review reports, look at areas needing improvement and set goals • Goals for improvement are discussed in meetings (regular agenda item), general observations, shared decisions on goal for improvement
5	NT	ACCHS	Remote	501-999	93	Preventive Child Health	<ul style="list-style-type: none"> • CQI audits conducted by Primary Health Care Coordinator located at regional health service organisation • SAT tools: service participates in weekly quality improvement discussions
6	NT	ACCHS	Regional	>=1000	100	Preventive Child Health	<ul style="list-style-type: none"> • Clinicians conduct the CQI audits • The audits are coordinated by the CQI coordinator and DMS. • SAT Tools: all clinicians participate in the SAT process • Goals are discussed by clinicians and strategies are determined together

Note: QLD = Queensland, WA = Western Australia, NT = Northern Territory, T2DM = Type 2 Diabetes Mellitus, DMS = Director Medical Services

Table 1: Characteristics of participating Indigenous PHC service

Table 3. Summarised within case analyses: Factors affecting continuous quality improvement (could be supplementary material)

Level	Theme	Site (1)	Site (2)	Site (3)	Site (4)	Site (5)	Site (6)
Macro	Linkages/ partnerships with external organisations	-	** “So [name] comes around quite frequently and gets an update on health because he’s on the Hospital Board. He goes around all the different agencies in the community for updates so he’s very proactive in that way.”	** “The partnership recognises that other agencies also contribute, so there is Mental Health, there is [name] Paediatrics that provides services, there’s also United First Peoples of Australia who provide services.”	** “You know we need really good relationships with services like [ACCHS] to sort it out. I know we’ve got some students that have organised with their Clinic to be able to get their medication while they’re here.”	* “AMSANT did one of their collaborative workshops in Katherine and the focus was on anaemia ...I know that we’ve shared data with the ABCD partnership stuff.”	* “There are very good relationships with stakeholders in Central Australia from clinical working on a daily basis, we need to strengthen those relationships.”
	Supportive external health service policies	* “So just because of the stability and the belonging and the Health Workers, in the communities, it’s more ideal to invest and give them the appropriate training.”	* “.. there’s a huge shift in the way Primary Health Care is delivered and it’s coming from the top. Before it was more acute. Executives have finally realised that...”	** “There was a really concerted effort to try and get people on fixed term contracts rather than agency. Or swap them over from agency to fixed term.”	** “We have received a lot of support from central – from N.T. Health. We are able to access the CQI coordinator if we need to, to get some advice.”	** “we probably find a lot of our support from the N.T. Health Government as well.”	-
	Understanding and responding to historical and cultural context	-	** “people need to, before they go and talk to people, they really need to sit back and understand their ways first. They need to know their audience.”	** “Find out the story of the people that you’re working for... that’ll give you a rough indication of where things are... It gives you a bit more understanding of	-	** “We have a pretty big focus on cultural safety and cultural security in the organisation. People get hammered at cultural orientation. If an issue arises we’ll nip it in the bud pretty	** “I’m a full supporter of Aboriginal Health Services and as a community we need to get behind them ...Our health is not improving and in fact... it’s actually gone downhill since the

			them.”		well straight away.”	intervention in the Territory”
	Community driving health (care)	-	** “The Health Committee in the community, introduced that because that was where we needed to be working and that was our support system. We’d all agree that we’ll be coordinating and that was the beginning of the direction of our future health”	-	-	** “consumer input into the governance of care ...that makes a big difference...but anything new that comes to us is provided in terms of a cultural and security framework and...that does help with engagement in care and participation, and some of the self-management stuff.”
Meso	CQI systems and supports at health service level	-	* “They do yearly checks on a few things and the health care staff here are quite good at monitoring – controlling who’s coming in and who’s going out..”	-	** “The CQI is something which is best done when someone’s interested in it and hopefully passionate. ...when they get the feedback that they’re improving things, they can see the difference that it’s making.”	** “So we have quite a tight structure around quality improvement. We do actively have a quality approach to the way that we deliver our health service and we actually announce that-we say that.”
	Teamwork and collaboration: shared focus	** “We support each other. “We’re pretty tight as a unit.”	** “It’s the communication here, it’s just really open and [lack of experience] isn’t held against me so to speak. I suppose coz I’m fresh eyes as well. And I have been asked	** “We are a team and using the computer system while you’re triaging a mother for ...pain, ‘oh look she’s overdue, six week check.’ ‘Let’s just have a look at baby in the	** “They’ve got staff who really understand about how to deliver primary health care programs and they really think about and they have to think hard about how they do that for both an	** “When we think about why are we here? We’re here for our people out in our communities and how do we provide the service best we can ... we respond to their
						** “They would work with a Health Practitioner usually...So they got to work in ways that they don’t normally work. So there was all this team-building type stuff, you know, and relationship

			you know, 'if you see anything that you think is missing.'	pram. He's two months overdue his needles! That's the kind of things that we're trying to strive for."	Indigenous population and a non-Indigenous population"	needs and wants."	type stuff, in a different way, which was good."
Prepared and stable workforce for CQI	** "it's better to have one that's here coz they- they build a rapport with the locals and they get to understand a full history of the patient, which is good."	** "The Health Service runs smoothly because the continuity has always been there. So [name] knows the system and what kind of programs to deliver."	** "I honestly think local personnel and a fresh outlook has made a big difference [to the partnership] and that's continuity. Stopped this...churn of agency through this hospital."	** "The advantage they have is that they have a more stable staff and going right through from their reception staff to their clinical staff."	** "I think the benefit that we have here is a very stable Leadership Group. So all of the people ...have been here for at least five years...and some of us for ten. I see in terms of staffing, I see stability now that I've never seen in the past."	** "I think that they have consistent staff which makes a difference. A lot of the other health centres that you go to every time you go there's a different staff member there that makes it difficult. So having consistent staff is one of the big keys."	
"Two way learning" for CQI (Indigenous culture and health)	-	** "I always like to use the word tuning in – tuning in to people. Different frequencies. Listen to them. Understanding them and I can utilise my knowledge with their knowledge to bring a level of half understanding between [us]."	** "What was working really well, through the partnership is the Family Approach program. The first step was to introduce the doctor to the traditional owners of that place, then meeting the chairperson, explaining the Family Approach to them and the Council and the community."	-	** "We go out yearly and hold open community meetings..Management staff will go out, put ourselves in front of the community...give an update on what we've done for the last twelve months...open that up to the community and our performance review begins at that point. You tell us from a grass roots perspective, ...and if we've got challenges then [they] will certainly let us know."	** "I think having the Aboriginal health workers on board? It's that two-way learning and I'm a believer of two-way learning and that is between health workers and the doctors."	

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3	Micro	User/community	**	**	**	**	**
4		engaged with the					
5		service	**	**	**	**	**
6			"We have regular	"People seem to trust	"One of the 'hooks' for	"The people that do	"We have a client
7			women's nights where	and follow up on their	Aboriginal people to	come to the clinic, they	population that is I
8			we can promote	own health, instead of	get involved in the	come when they're	suppose, regularly
9			friendship, getting	people having to go out	health services was the	called in general and	interacting with the
10			together and support."	and collect them, which	Aboriginal and Torres	they engage. They try	health system."
11				is quite interesting as	Strait Islander health	and do what you ask	
12				well. Like the health	checks – just around	them to do. They're	
13				behaviour here is I	the engagement with	very actively managed	
14				think a bit different	the families getting	by the clinic in terms of	
15				than the type of places	families in, getting	getting them in here	
16				I've been"	them engaged."	and they get good	
17						service when they	
18						come in...and they	
19		"Going the extra	**	**	**	**	**
20		mile" and staff					
21		caring,	"They go that little	"[name] has been there	"You know, it's	"I had bleeding so we	"...well they're doing
22		commitment	extra mile I think to do	for a number of years	respectful and they	rang up the clinic and a	everything all alright.
23			those extra things like	and has gained the	listen to you if you got a	Health Worker she got	They get along with the
24			the afterhours events."	trust of many	problem. You know, a	a hold of the nurse.	community people.
25				community members.	lot of health centres	Well by the time I got	They go around, they
26				[name] is part of	don't listen to their	to the clinic, she rang	have a yarn to people.
27				community."	community people	and apologised. She	If they need to chase
28					when they go in and	even pulled her kids out	someone down, they
29					some are very hard to	of the bath to get over	go and do that."
30					talk to, but you can go	to me. So I mean that's	
31					up any time and talk to	real dedication."	
32					them about anything if		
33					you need to."		
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37		**Clearly present	*Present to some degree	- Not clearly present			
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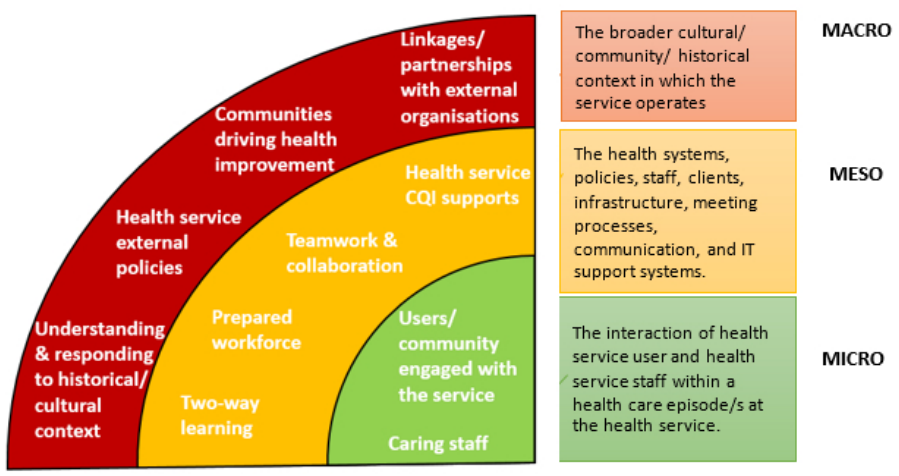


Figure 1: Factors influencing CQI at high improving services

Figure 1: Factors influencing CQI at high improving services

BMJ Open

“At the grass roots level it’s about sitting down and talking”: Exploring quality improvement through case studies with high-improving Aboriginal and Torres Strait Islander primary health care services

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Keywords:	PRIMARY CARE, PUBLIC HEALTH, QUALITATIVE RESEARCH, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Aboriginal health

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Manuscripts

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3 1 **“At the grass roots level it’s about sitting down and talking”**: Exploring
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29
30 35 **Keywords:** continuous quality improvement, primary health care, Aboriginal, systems approach,
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32 36 implementation, quality of care.
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35 37 **Word count:** 5713 words, excluding title page, abstract, references, figures and quotes.
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3 46 **Abstract** (298 words)
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6 47 **Objectives:** Improving the quality of primary care is an important strategy to improve health
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8 48 outcomes. However, responses to Continuous Quality Improvement (CQI) initiatives are variable,
9
10 49 likely due in part to a mismatch between interventions and context. This project aimed to
11
12 50 understand the successful implementation of CQI initiatives in Aboriginal and Torres Strait Islander
13
14 51 health services in Australia through exploring the strategies utilised by “high-improving” Indigenous
15
16 52 primary health care (PHC) services.
17
18
19

20 53 **Design, settings and participants:** This strengths-based participatory observational study used a
21
22 54 multiple case-study method with six Indigenous PHC services in northern Australia that had
23
24 55 improved their performance in CQI audits. Interviews with health care providers, service users and
25
26 56 managers (N=134), documentary review and non-participant observation were used to explore
27
28 57 implementation of CQI and the enablers of quality improvement in these contexts.
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32 58 **Results:** Services approached the implementation of CQI differently according to their contexts.
33
34 59 Common themes previously reported included CQI systems, teamwork, collaboration, a stable
35
36 60 workforce and community engagement. Novel themes included embeddedness in the local
37
38 61 historical and cultural contexts, two-way learning about CQI, and the community “driving” health
39
40 62 improvement. These novel themes were implicit in the descriptions of stakeholders about why the
41
42 63 services were improving. Embeddedness in the local historical and cultural context resulted in “two-
43
44 64 way” learning between communities and health system personnel.
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49 65 **Conclusions:** Practical interventions to strengthen responses to CQI in Indigenous primary health
50
51 66 care services require recruitment and support of an appropriate and well prepared workforce,
52
53 67 training in leadership and joint decision-making, regional CQI collaboratives and workable
54
55 68 mechanisms for genuine community engagement. A “toolkit” of strategies for service support
56
57 69 might address each of these components, although strategies need to be implemented through a
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3 70 two-way learning process and adapted to the historical and cultural community context. Such
4
5 71 approaches have potential to assist health service personnel strengthen the PHC provided to
6
7 72 Indigenous communities.
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12 13 14 74 **Strengths and limitations of the study**

- 15
16
17 75 • This study used a participatory approach and mixed methods to gather rich, contextually-
18
19 76 informed data from each of our six case-study sites.
20
21 77 • This approach addresses an identified gap in the literature – that of linking the
22
23 78 effectiveness of CQI interventions to the contexts in which they operate.
24
25 79 • Involvement of service providers, community-controlled peak bodies and
26
27 80 government health departments enhances opportunities for translation into policy
28
29 81 and practice.
30
31 82 • The in-depth exploration with six Indigenous health services in northern Australia
32
33 83 with a keen interest in quality improvement approaches may be difficult to directly
34
35 84 transfer to other settings.
36
37 85 • The diversity in population size, remoteness and governance models amongst our
38
39 86 sites and the relationship to findings reported elsewhere suggest that our findings
40
41 87 may have applicability in a range of under-served health care settings.
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49 88 **Keywords:** continuous quality improvement, primary health care, Aboriginal, systems
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51 89 approach, implementation, quality of care.
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91 **Background**

92 Achieving improvement in the quality of primary care on a broad scale is a challenge worldwide,
93 with evidence that there is a substantial gap between best practice as defined by clinical practice
94 guidelines and actual practice (1). Success in the implementation of complex interventions to
95 improve the quality of primary care is often patchy, with a 2016 systematic review finding that the
96 “fit” between the intervention and the context was often critical in determining intervention
97 success, although few studies reported sufficiently on the interaction between context and other
98 factors (2). Olivier de Sardan (2017) suggests that often interventions aimed at quality improvement
99 “travel” from country to country and are applied largely without consideration of the health system
100 context, thus limiting their effectiveness (3). Primary health care (PHC) services are themselves
101 adaptive systems and also operate within the larger complex adaptive health system (4).

102 Improving the quality of PHC provided to Aboriginal and Torres Strait Islander Australians is an
103 essential part of strategies to overcome Indigenous disadvantage (5). Although Continuous Quality
104 Improvement (CQI) processes appear to be successful overall in improving quality of care in primary
105 care (6), including in Aboriginal and Torres Strait Islander primary health care services (hereafter,
106 Indigenous PHC services; 7), there is very wide variability in response to these initiatives (8).
107 Understanding this variability and the systems and implementation factors that affect it is an
108 important step in improving the effectiveness of CQI on a broader scale, yet limited research in the
109 Indigenous PHC sector has previously addressed this issue.

110 In Australia, in remote areas there are government health services and Indigenous-specific PHCs
111 called Aboriginal Community Controlled Health Services (ACCHS), these offer tailored PHC to
112 Aboriginal and Torres Strait Islander peoples. However, the quality of care provided by such services,
113 and the health outcomes achieved, vary significantly between services (8). In response to CQI, some
114 services consistently achieve relatively high performance, apparently due to interplay between
115 strong and stable organisations, good governance and clinical leadership (9), which together with a

1
2
3 116 supportive community and policy context facilitate perseverance with participation in CQI (7). In
4
5 117 contrast, some services show limited improvement (sometimes none), due to a range of interwoven
6
7 118 implementation, resourcing and community contextual factors, often the inverse of those underlying
8
9 119 high performance. A growing body of literature suggests common factors which facilitate positive
10
11 120 responses to CQI initiatives. These include: (a) whole of organisation culture and engagement (2,
12
13 121 10); (b) a health workforce that is sufficient, stable and skilled (11-13); (c) strong data systems (14);
14
15 122 (d) supportive linkages and networks with the community and the broader health system (15, 16);
16
17 123 and (e) stable, long term funding with a supportive policy framework (9, 17). What is poorly
18
19 124 understood, but so important for Indigenous services, is how these systems factors interact with the
20
21 125 specific socio-cultural and historical contexts of Indigenous communities to affect quality
22
23 126 improvement and how variability in responses towards higher performance trajectories might be
24
25 127 enhanced (2, 18).

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29
30 128 We conducted a project to explore this variability using a strengths-based approach, to learn from
31
32 129 Indigenous PHC services successful in improving the quality of care provided in response to CQI. This
33
34 130 paper reports how quality improvement is operationalised at these successful ("high-improving")
35
36 131 Indigenous PHC services, including the adaptation of strategies to cultural and historical contexts,
37
38 132 and systems factors that were important in producing the outcomes.

133 **Methods**

134 A multi-case comparative case study design using quantitative and qualitative data was employed
135 with six case study sites in remote northern Australia and the Torres Strait. A participatory and
136 strengths-based research design was used to investigate how CQI worked at these high-improving
137 services and how systems factors affected CQI processes and outcomes. This design entailed working
138 collaboratively with the high-improving services (staff and service users) drawing on their strengths
139 and knowledge to contribute to understandings of CQI and the social and cultural dynamics of the

1
2
3 140 context. This is an appropriate design to investigate systemic health system patterns surrounding
4
5 141 CQI in the dynamic social setting of Indigenous PHC services (19).
6
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10
11 143 *Patient and public involvement*
12

13
14 144 This study arose and questions were refined from discussions within a community-of-practice of
15
16 145 Aboriginal health peak bodies, services and researchers. Service representatives and community
17
18 146 members were included in a Learning Community, to guide and steer the conduct of the project.
19
20 147 Obtaining patient feedback about the success of quality improvement initiatives was critical to the
21
22 148 project, and interviews with services users and “boundary crossing” local health workers and
23
24 149 community members were obtained. Consistent with our participatory approach, feedback visits
25
26 150 occurred to each community to report findings from each site back to staff members and community
27
28 151 members.
29
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31
32
33 152 *Study population and case sampling*
34

35
36 153 ‘High improving’ services were identified by calculating quality of care indices for Indigenous health
37
38 154 services participating in the ABCD National Research Partnership. These indices were based on the
39
40 155 delivery of services against recommended guidelines for service provision during yearly audits in
41
42 156 four areas: maternal health, child health, preventive health and chronic disease (Type 2 diabetes
43
44 157 (T2DM)). Health service performance was calculated by deriving the proportion of guideline-
45
46 158 scheduled services delivered out of the total number of scheduled services for each audit tool in
47
48 159 each year of participation. Trends in performance over time was examined with services categorised
49
50 160 as ‘high-improving’ if they showed consistent ascending performance over at least two of the four
51
52 161 audit tools over three or more audits. Full detail on the categorising method is provided elsewhere
53
54 162 (20). Six health services that met the inclusion criteria of continuous high improvement and
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1
2
3 163 included a spread of regional and rural services and mix of government of services and ACCHSs were
4
5 164 selected and agreed to participate in the current study.
6
7

8 165 The characteristics of these six Indigenous health services categorised as high-improving in this study
9
10 166 are described in Table 1. All health services are located in northern Australia and five are located in
11
12 167 communities with a predominantly Indigenous population. Most of the services are situated in
13
14 168 remote locations with relatively small populations, fewer than 1000 people, but two are in larger
15
16 169 rural “cross-roads” towns with a larger, more mobile population with services offered to
17
18 170 communities across the wider area, often people living in very remote parts of northern Australia.
19
20 171 Three of the services are Government operated health services which means they are governed and
21
22 172 funded by the health department of the relevant state. Two of the services are Aboriginal
23
24 173 Community Controlled Services (ACCHS) which means the services are operated by the local
25
26 174 Aboriginal community to deliver holistic and culturally appropriate health care to the community
27
28 175 which controls it (through a locally elected Board of Management; 21). One of the case studies is a
29
30 176 health partnership between government operated health services and an Aboriginal Community
31
32 177 Controlled Health Organisation (ACCHO). The process for undertaking CQI audits and completion of
33
34 178 System Assessment Tools (SATs) differed across the high improving health services (Table 1). Some
35
36 179 of the services adopted a formal approach which involved all staff members, whilst in other services
37
38 180 they were facilitated by an external team with varied involvement from the health service staff (22).
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45 181 [Table 1 about here]
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48 182 *Data collection* 49

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51 183 Four data sets were used for the case studies: (1) existing audit and systems assessment tool data;
52
53 184 (2) qualitative interviews with health staff, service users and external stakeholders; (3) health service
54
55 185 and workforce questionnaires completed by local managers; and (4) non-participant observation by
56
57 186 members of our team as recorded in field notes. Data were collected between 2015 and 2016 during
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1
2
3 187 two or more visits to the sites. Multiple data sources were used to enhance data credibility and
4
5 188 develop a more holistic understanding of the high improving services (23). Interviews with local and
6
7 189 visiting health service staff and managers and regional managers explored the impact of contextual
8
9 190 factors and the interplay of systems factors (such as leadership, governance, resourcing and
10
11 191 workforce) on quality improvement in the service. Service users were asked about their history of
12
13 192 use of the service, what they thought about it and the staff, and improvements they might like to
14
15 193 see. Informed written consent was sought from all participants.
16
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20 194 *Analysis*

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22
23 195 The interviews were digitally recorded and transcribed. The analysis of qualitative interviews was
24
25 196 completed abductively (24), which is an inferential creative process of producing novel concepts; in
26
27 197 this study, about health system and implementation factors that support continuous quality
28
29 198 improvement in Indigenous health services. Within-case analysis was conducted first. Transcripts
30
31 199 and field notes were read by multiple team members and then coded by three team members into
32
33 200 NVivo qualitative data analysis software (QSR International Pty Ltd. Version 11) for each case. Codes
34
35 201 were derived deductively using the interview topics and were used consistently across the six cases.
36
37 202 Then, within each case, codes were amalgamated into themes developed inductively, identifying
38
39 203 underlying meanings apparent in codes. The themes for each case were visually displayed at the
40
41 204 macro, meso, and micro level and reported back to the health service team to refine the descriptive
42
43 205 model and conclusions.
44
45
46
47

48 206 Across-case analysis involved aligning similar and different themes for each case in a visual display.
49
50 207 Then similar themes across-cases were analysed together to determine the commonalities and
51
52 208 produce new themes. Themes that were unique to one service were retained. Concurrently, theory
53
54 209 and concepts about quality improvement, health systems functioning, and Aboriginal and Torres
55
56 210 Strait Islander community participation were reviewed to see if findings concurred with existing
57
58
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211 concepts or whether new ones could be added. Discussion of both within-case and cross-case
 212 findings took place with service partners (both individually and jointly) to assist with interpretation.

213

214 Main Findings

215 A total of 134 interviews were conducted across the six case study sites (Table 2).

216 **Table 2: Number of interviews conducted in each case study site (N=134)**

Site	1	2	3	4	5	6	Total
Health service staff	7	4	12	7	12	12	54
Health service user	9	6	10	8	8	10	51
External stakeholder	0	4	3	5	8	4	24
Total	16 (5)*	14 (5)*	25	20	28	26	134

217 ** A total of five regional stakeholders with common responsibilities for sites 1 and 2 were*
 218 *interviewed.*

219

220 Analysis of the case studies revealed a complex interplay of systems factors that were individualised,
 221 reflecting the context and circumstances of the service (Table 3). Some of these factors, common
 222 across most services, are consistently reported in the literature and some are novel. At the
 223 macrosystem level, the first group of factors commonly reported included: (1) linkages and
 224 partnerships with external organisations; and (2) supportive external health service policies. At the
 225 mesosystem, or health service level the common factors were: (3) health service CQI supports; (4)
 226 teamwork and collaboration; and (5) prepared workforce; whilst at the microsystem level the factors
 227 were: (6) consumers engaged with the service; and (7) caring staff (Figure 1). The novel factors
 228 found in most services at the macro system were: (1) understanding and responding to the historical
 229 and cultural context; (2) communities driving health improvement; and at the meso level, (3) two-
 230 way learning between health professionals and communities.

1
2
3 231 We also report on the perceptions of interviewees about the reasons for high continuous
4
5 232 improvement at the service. The operationalisation of “two-way learning”, although it was not
6
7 233 named as such, was found in three sites where there were high levels of interaction of the cultural
8
9 234 and historical Indigenous context with the strategies for CQI.
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37 243 Each of these findings will now be described in turn.

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40 244 **Figure 1: Factors influencing CQI at high improving services**

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46 246 **Factors influencing CQI at high improving services consistent with existing literature**

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48
49 247 ***Macro level factors: Linkages and partnerships with external organisations***

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51
52 248 High improving services linked with external organisations to enhance the health care they were
53
54 249 providing, for example attending regional forums as part of the CQI support system. This occurred in
55
56 250 all the services although processes differed. Health professionals recognised that they did not
57
58 251 operate in isolation so engaged with local organisations and other health service providers. Some
59
60

1
2
3 252 linkages were informal or ad hoc based on local priorities and needs, and others were more formal
4
5 253 partnerships.

6
7
8 254 *Where the different organisations across the Territory come together and we share data*
9
10 255 *and we share experiences, and quite often people have got really good processes ... it*
11
12 256 *turns out we're pretty much all addressing the same issues... Sometimes one of the other*
13
14 257 *AMs have started to deal with it [a problem] and make improvements that are*
15
16 258 *effective. And if you don't talk to them, you don't know. [Health service staff, site 6]*

17
18
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20 259
21
22 260 Working together was important for implementation and linked to a shared motivation or a
23
24 261 "collective intent" to improve the healthcare of the communities services were working with. Some
25
26 262 jurisdictions had a policy impetus that helped drive collaboration. However, the strongest theme
27
28 263 was ensuring health service users and the community received timely and appropriate care to
29
30 264 improve outcomes. Other reported benefits of working with external organisations included sharing
31
32 265 expertise, information, and improved relationships with clients and community.

33
34
35 266 *And it shows – the clients are getting better outcomes. As an example, we've had difficulty*
36
37 267 *with patients that can't get dialysis here...We don't have the capacity to just start plucking*
38
39 268 *money out of anywhere to send individuals back for dialysis. Neither do [service name] but*
40
41 269 *between us being very creative about who's going to [local town] what services are travelling*
42
43 270 *between [local town], how we can utilise whatever's happening between our three services*
44
45 271 *and in the community. [Health service staff, site 3]*

272 **Supportive external health service policies**

273 Health service policies from the state level (i.e. Queensland Health, Western Australia Health and
274 Northern Territory Health) and national level health departments provided an overarching
275 framework within which the health services operated. In some jurisdictions, external health service
276 policies at the macro level were supportive of CQI. In supportive contexts there was provision of

1
2
3 277 leadership through the appointment of regional CQI coordinators working across multiple services;
4
5 278 training for health service staff with funding to attend CQI workshops; and workforce policies and
6
7
8 279 tools to facilitate CQI in the health services.

9
10 280 *We have received a lot of support from central – from NT Health. We are able to access*
11
12 281 *the CQI coordinator if we need to, to get some advice... We have at least an annual*
13
14 282 *meeting for the CQI Facilitators, where they're developing up specific skills that they can*
15
16 283 *then teach to the teams that they work with. [Health service staff, site 4]*

17
18
19 284
20
21 285 *There's the concept of the Traffic Light Report that's coming out now ... We also noticed*
22
23 286 *that we're making improvements if we look at the previous three or four reports and the*
24
25 287 *colours are changing! So that was a really good thing to see and even though things*
26
27
28 288 *aren't great in all areas yet, the fact is we're trending up in morale. [Health service staff,*
29
30 289 *site 4]*

31
32 290
33 291 Health services located in one of the jurisdictions where there had been less consistent central
34
35 292 leadership and support had generated local solutions for CQI.

36
37
38 293 *I think we're doing a lot of good stuff that is not really captured...and when I start*
39
40 294 *talking about things, 'what have you done?' 'How can we do this better?' 'Oh no, no,*
41
42 295 *we've already got this process and that process and we're doing this.' And it's*
43
44 296 *fascinating to see them light up when they realise that they are actually doing a lot of*
45
46 297 *improvement and they didn't see it as such. [External stakeholder, Sites 1 & 2]*

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51
52 299 ***Meso level factors: CQI systems and supports at health service level***

53
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55 300 Having appropriate systems and support at the health service level was vital for CQI in relation to
56
57 301 embedding CQI into daily activities. Interviews with health service staff from high improving services
58
59 302 indicated that effective CQI systems and support included: information technology (IT) systems

1
2
3 303 integrated with the electronic medical record for recalls; templates to assist people to reliably and
4
5 304 objectively record data; regular production of quality reports and audit data; and team meetings
6
7
8 305 with a focus on quality improvement.
9

10 306 *I suppose the greatest thing, all your notes are in one place - everyone's notes. So it*
11
12 307 *opens it up – doesn't matter where they turn up. Coz everyone's seeing the same screen*
13
14
15 308 [Health service staff, site 6]
16

17 309 All services had CQI systems in place but how these were implemented differed slightly. In some
18
19 310 health services it was very structured and standards driven.
20
21

22 311 *Whereas for us, our core business is acute care and our continuing quality improvement*
23
24 312 *is set at a national standard.* [External stakeholder, site 3]
25
26

27 313 In other services, formal systems ran in parallel to very practical and community-driven systems. For
28
29 314 example, one community-driven process ensured that yearly health checks are conducted in the
30
31 315 month of the resident's birthday. This spread the clinic's workload across the year but also ensured
32
33 316 coverage while making health screening and vaccination routine, non-intrusive, and efficient.
34
35

36
37 317
38
39
40 318 CQI systems and supports were viewed positively and promoted a routine and culture of CQI.
41
42 319 Some health service professionals reflected on CQI in terms providing appropriate and timely care.
43
44

45 320 *What is particularly effective is to be able to effectively gather statistical information*
46
47 321 *which is what we're using and so that's really good, to be able to press a few buttons...I*
48
49 322 *do a lot of recalls and the nurse would do a print out of all our recalls and I'll follow*
50
51 323 *them [clients] all up and try and get them in.* [Health service staff, site 4]
52
53

54 324 **Teamwork and collaboration: shared focus**
55
56

57 325 A striking feature of these high improving services was staff commitment to working together
58
59 326 towards the same end – improved health for the clients and the community. This was expressed in a
60

1
2
3 327 variety of ways. Perhaps the most obvious was “*We all know why we are here,*” meaning that all
4
5 328 staff at the health centre had a shared commitment to improving health outcomes. Furthermore,
6
7 329 evident in the high improving services was the connection between teamwork and continuous
8
9 330 improvement and involving the whole team in CQI.
10
11

12
13 331 *And you could just see a lot of the junior staff really listening and starting to switch on*
14
15 332 *and go, ‘okay. So there’s more to me than just answering the phone.’ And, ‘this is how*
16
17 333 *I’ve contributed in this area and that area...and this is our actual purpose. This is what*
18
19 334 *we’re really here for.* [Health service staff, site 5]
20
21

22 335

23
24 336 In several services, staff were perceived to be “*passionate about quality*”, meaning that
25
26 337 opportunities for improvement were sought out and embraced. Importantly, these passionate staff
27
28 338 were able to inspire others towards the joint intent to improve the health of individuals and the
29
30 339 community as a whole. “*How can we improve the community's health?*” was a mantra in one service
31
32 340 and others shared similar themes.
33
34

35
36 341 *The CQI is something which is best done when someone’s interested in it and hopefully*
37
38 342 *passionate. And we do have that fortunately, but when someone actually likes it and*
39
40 343 *particularly when they get the feedback that they’re improving things, they can see the*
41
42 344 *difference that it’s making.* [Health service staff, site 4]
43
44

45 345

46 346 Building teamwork for CQI required leadership to drive and facilitate activities such as team
47
48 347 meetings, shared decision making and support networks. One health service described their
49
50 348 strategy of bringing together groups of people as teams to do the CQI audits. Another health service
51
52 349 brought together remotely located health professionals to discuss CQI at weekly teleconferences.
53
54

55
56 350 *But you know, we have that collaborative team approach across everything. We also*
57
58 351 *collaborate strongly with our remote clinicians so we give them the opportunity to be*
59
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3 352 *involved in decision-making around quality so they're engaged every Friday mornings so*
4
5 353 *basically like a team meeting, with a quality focus. [Health service staff, site 5]*
6
7

8 354
9 355 In many of the services, CQI was embedded in how they operated and was everybody's business.

10
11 356 The comment below illustrates one service's team approach, searching for ways to improve and
12
13 357 analysing data in a way that guided areas for improvement.
14
15

16 358 *Yeah so it actually becomes quite good and everybody gets involved and has a look. If*
17
18 359 *something isn't working properly you fix it... We look at it and work out what we need to*
19
20 360 *change from spreadsheets for chronic disease, where your shortfalls are. 'Coz if you*
21
22 361 *don't do that sort of stuff, you can't actually see what the problem is. We had a session*
23
24 362 *a few weeks ago with spreadsheets, graphs and pie charts, and even the doctors are*
25
26 363 *surprised at what they haven't been doing. [Health service staff, site 4]*
27
28
29

30 364
31
32 365 Two more reasons frequently expressed for working as a team that were: i) the enormity of the task
33
34 366 to improve Indigenous health and pressure to get it right because it mattered to them personally. As
35
36 367 stated by one staff member, *'You know this is chronic disease data to you' I said, 'but to me it's my*
37
38 368 *families.'* [Health service staff, site 3]; and ii) the valued mix of skills held by Indigenous staff and
39
40 369 balancing those held by non-Indigenous staff.
41
42

43 370 *It's good to see the Indigenous people really involved in the organisation. It makes a lot*
44
45 371 *of Aboriginal people feel more relaxed - more comfortable with using the service.*

46
47 372 [Health service staff, site 6]
48
49

50 373
51 374 Thus it was a collective intent and action rather than just an individual attribute that acted as a
52
53 375 motivator supporting the development of shared goals and objectives and improved health
54
55 376 outcomes for service users.
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1
2
3 377 *We've structured everything so everyone's involved. So likewise with primary health care*
4
5 378 *governance – everyone's involved and that was always... But it's always with a*
6
7 379 *collaborative approach if that makes sense....* [Health service staff, site 5]
8
9

10 380 ***Prepared and stable workforce for CQI***
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12
13 381 Interviews with health professionals and stakeholders revealed a pragmatic understanding about
14
15 382 requirements for the health workforce. Characteristics of a prepared workforce included stability;
16
17 383 appropriate orientation; a mix of Aboriginal and non-Aboriginal staff; trusting relationships, and
18
19 384 supportive leadership. Many of the services had long-term staff and those stable staff had
20
21 385 developed deep knowledge and understanding about the communities they were working in and
22
23 386 with that appropriate ways to deliver primary health care.
24
25

26
27 387 *The advantage they have is that they have a more stable staff and going right through*
28
29 388 *from their reception staff to their clinical staff. They've got staff who really understand*
30
31 389 *about how to deliver primary health care programs ...they have to think hard about how*
32
33 390 *they do that for both an Indigenous population and a non-Indigenous population.*
34

35
36 391 [Health service staff, site 4]
37

38 392 These comments suggest that staff stability enabled trusting relationships and embeddedness to
39
40 393 facilitate improvement in health care, perhaps reflecting also on understanding the care system and
41
42 394 having the maturity and confidence to make small changes for the benefit of service users. However,
43
44 395 striving for workforce stability was a challenging space for most services, so some had developed a
45
46 396 range of pragmatic strategies to increase preparation and support.
47
48

49
50 397 *...it's a challenging space and although we strive for this stability, the trade-off is you*
51
52 398 *know, if people stay too long that's a challenge as well. And you kinda find the balance*
53
54 399 *between having a really well prepared workforce and being able to support that really*
55
56 400 *well prepared workforce and then having a workforce that are tired and a bit*
57
58 401 *disgruntled and are struggling in this space.* [Health service staff, site 5]
59
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2
3 402 Linked to a stable workforce was the mix of Indigenous and non-Indigenous staff. Some health
4
5 403 professionals observed that Indigenous staff were likely to stay longer as they were locals living in
6
7 404 the community/local area. Locally-based Indigenous staff were knowledgeable about the
8
9
10 405 community and local culture, and this knowledge was respected. In addition, the retention of locally
11
12 406 based Indigenous staff gave the community a sense of ownership and users of the service felt that
13
14 407 staff knew the community well.

15
16
17 408 *And our Aboriginal staff stay a lot longer because they're local. ...The fact is there are a*
18
19 409 *lot of locals working here - that's a good thing too. It is their resource base within the*
20
21
22 410 *community. It also gives the community a sense of ownership over the Health Services as*
23
24 411 *well, knowing that they've got locals working in there. [Health service staff, site 6]*
25

26 412

27 28 413 **User and community engagement with the service**

29
30
31 414 User and community engagement with the health service was frequently cited as influencing how
32
33 415 CQI was enacted across the participant health services. Health service users commented on having a
34
35 416 good relationship between the health service and the community it served.

36
37
38
39 417 *...well they're doing everything all alright. They get along with the community people.*
40
41 418 *They go around, they have a yarn to people. If they need to chase someone down, they*
42
43 419 *go and do that. Everything's going good. [Health service user, site 5]*
44

45
46 420 The mechanisms reported and observed for health services engaging with users and the community
47
48 421 varied. For some services, these related to engaging in the monitoring of their health at both the
49
50 422 individual and group level. In other health services it was related sitting down together with
51
52 423 community and asking the question 'How do we improve services?'

53
54 424 *We go out yearly and hold open community meetings. So us as management staff will*
55
56 425 *go out, put ourselves in front of the community um...we'll give an update on what we've*
57
58 426 *done for the last twelve months and then we open that up to the community and our*
59
60

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3 427 *performance review begins at that point. You tell us from a grass roots perspective,*
4
5 428 *what we've been doing right and what are our challenges and if we've got challenges*
6
7 429 *then [they] will certainly let us know. ...and at that grass roots level, it's about sitting*
8
9
10 430 *down and talking. [Health service staff, site 5]*
11

12 431

14 432 Other comments from health professionals focused on the importance of developing a connection
15
16 433 with community and their culture. All services worked with or in their communities and drew on
17
18 434 strong place-based family connections. These connections supported CQI when there was open
19
20 435 communication between health centre staff, community members, and other key people about
21
22 436 community views, aspirations, and health issues.

25 437 *One of the 'hooks' for Aboriginal people to get involved in the health services was the*
26
27 438 *Aboriginal and Torres Strait Islander health checks – just around the engagement with*
28
29 439 *the families getting families in, getting them engaged. It was going in the right direction*
30
31 440 *and it is working on a large community development program- because people say*
32
33 441 *family health but I see it as community development....you gotta have that engagement*
34
35 442 *side of things kind of grounded down I think. [Health service staff, site 6]*
36
37
38

39 443

41 444 **Microsystem factors: "Going the extra mile" and staff caring, commitment**

43 445 This theme was characterised by health service users as getting personalised service from health
44
45 446 professionals with health service staff going the extra mile. Users of the health service commented
46
47 447 that the personalised service made them feel comfortable and safe, and fostered a trusting
48
49 448 relationship with the health care provider.

52 449 *I feel comfortable and every time I come here... they've got all these different little*
53
54 450 *changes that happen now and then with the office and stuff it makes you feel really -*
55
56 451 *could you say, at home. [Health service user, site 6]*
57
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3 453 In all services, clients acknowledged the hard work that staff put in. One interviewee described this
4
5 454 as 'going the extra mile'. The commitment of staff to improve the health of the communities was
6
7 455 also evident from interviews with health service users. Service users described health service staff
8
9 456 as 'taking their duty of care seriously' and being proactive and supportive.
10
11

12 457

13
14 458 *They go that little extra mile I think to do those extra things like the afterhours*
15
16 459 *events....The staff always try their best and to help you out. They're on call so if you need*
17
18 460 *to see them after hours they're quite happy to do that....Most of the ones that we get*
19
20 461 *here genuinely care for people and it's more than just a job. [Health service user, site 1].*
21
22

23 462

24
25 463 Overall, one important factor that services users and those people external to the service
26
27 464 noted was the trusting relationships that had been established between service users and
28
29 465 health professionals.
30

31
32 466 *We have rare, very passionate committed, hardworking [names] that worked out here.*
33
34 467 *And the fact that if you have the same person and the community get to know that*
35
36 468 *person, they get to trust them, they build up that [trust]- which we know takes a while*
37
38 469 *in Aboriginal communities. [Health service staff, site 3]*
39
40

41 470

42 43 471 **Novel factors contributing to CQI**

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45 472

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47
48 473 Along with the factors that are well known to assist in implementing CQI were three factors
49
50 474 that are less frequently reported on but were fundamental in these Indigenous communities.
51
52 475 These were: understanding and responding the historical and cultural context in which the
53
54 476 service was located; "two-way" learning between health professionals and communities; and
55
56 477 communities driving their health.
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8 481 **Macro level: Understanding and responding to historical and cultural context**
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10 482
11
12 483 The importance of culture and history of Indigenous and non-Indigenous people associated with the
13
14 484 health services cannot be underestimated and was made explicit during interviews at three sites.
15
16 485 Understanding culture involves understanding the ways things are done, the importance of
17
18 486 relationships, how to exchange ideas, how to pass news, and how the family systems function. All
19
20 487 these aspects are fundamental to health improvement. It was thought that *“people need to, before*
21
22 488 *they go and talk to people, they really need to sit back and understand their ways first. They need to*
23
24 489 *know their audience”*. [Health service user, site 2]
25
26 490
27
28 491
29
30 492
31
32 493 The historical backdrop includes the history of colonization, the history of the establishment of the
33
34 494 ‘community’ and from a historical perspective, the way in which health services have been provided.
35
36 495 A staff person at one of the centres thought that understanding the history of the community in
37
38 496 which the health service was based was fundamental to quality health service delivery.
39
40
41 497
42
43 498 *[to understand our effective health service delivery] I like to go back to history. I think it’s*
44
45 499 *related to the history of the island – the people who ran the islands and the people that I’ve known*
46
47 500 *all these years that have functioned in the ancestral histories and backgrounds.*
48
49 501
50
51 502 [Health Service Manager site XX]
52
53 503
54
55 504 With regard to the importance of culture one Indigenous health practitioner put it this way.
56
57
58
59 505 *“Our culture is our foundation here. It - you go out of your bounds you know -*
60

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2
3 505 *morally inside you don't feel right. I mean with [community controlled health service] I think*
4
5 506 *they understand that with most of the Board Members they are our family as well". [Health*
6
7 507 *service manager, site 5]*
8
9

10 508
11
12 509 This person referred to the strength of the foundation of culture and inducting practitioners into this
13
14 510 approach. *"We have a pretty big focus on cultural safety and cultural security in the organisation.*
15
16 511 *People get hammered at cultural orientation. If an issue arises, we'll nip it in the bud pretty well*
17
18 512 *straight away."* [Health service manager, site 5]
19
20

21 513
22
23 514 In another service the rule of culture was referred to as underpinning all aspects of life including
24
25 515 healthcare.
26
27

28 516
29
30 517 *"the rule of culture is vitally important 'coz it's everything I guess ... culture is pretty much our*
31
32 518 *belief. Bottom line. What we believe and you can't negate culture from anything that happens*
33
34 519 *...the important thing is people understand those beliefs and how do we best balance those*
35
36 520 *things in a way that will be productive going forward". [Health service user, site 2]*
37
38

39 521
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41 522
42
43 523 In this context, maintaining a deep understanding of their community and clients was integral to
44
45 524 how services operated and came from motivations to improve care for clients (community) and
46
47 525 improve health outcomes. The embeddedness in Aboriginal and Torres Strait Islander culture in
48
49 526 these high improving health services was reflected how they approached engaging with service users
50
51 527 and the wider community.
52
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54 528
55
56 529 *Find out their story because that'll give you a rough indication of where things are with*
57
58 530 *these people that you're working with. [Health service user, site 3]*
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3 5314
5 532 **Meso level: “Two way learning” for CQI**6
7 533

8 534 A second factor about which there is little knowledge in the CQI literature is “two-way” learning,
9
10 535 perhaps because it reflects more of a process. Health service staff (both Indigenous and non-
11
12 536 Indigenous) that were more responsive to the historical and cultural context talked about how they
13
14 537 integrated their knowledge about effective healthcare and CQI processes with Indigenous
15
16 538 community family sensitivities, obligations and traditional ways. This was described by an Aboriginal
17
18 539 staff member as “two way” learning. In several of the services, Indigenous cultural knowledge was
19
20 540 blended with health professionals’ expertise.
21
22
23
24
25
26 541

27
28 542 *Well I think having the Aboriginal health workers on board. It’s that two-way learning and I’m*
29
30 543 *a believer of two-way learning and that is between health workers and the doctors. At the*
31
32 544 *moment we have a good quality number of doctors as well. The health worker numbers varies*
33
34 545 *- I’ve only got four in the clinic but they do the best to their ability and sometimes they get*
35
36 546 *highly strained and stressed. [Health service staff, site 6]*
37
38

39 547

40
41 548 Another non-Indigenous staff member was able to describe two-way learning that was practiced in
42
43 549 the health centre that this person was associated with.

44
45 550 *I always like to use the word “tuning in” – tuning in to people. Different frequencies. Listen to*
46
47 551 *them. Understanding them and I can utilise my knowledge with their knowledge to bring a*
48
49 552 *level of half understanding between [us]. [Health service staff, site 2]*
50
51

52 553

53
54 554 Two way learning requires a great deal of sensitivity amongst “mainstream” health professionals.

55
56 555 One health professional describes some of the challenges in terms of genuine engagement in two-
57
58 556 way learning within a Western mainstream environment.
59
60

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3 557 We [health service] want to employ them because they're local. They know the language, they
4
5 558 know the culture. But then once they get in there, they just become more or less a lackey and
6
7 559 they're expected to work within the mainstream way of doing things and I think that makes it
8
9
10 560 very difficult for an Aboriginal to excel – especially in a mainstream environment. [Health
11
12 561 service staff, site 2]
13
14
15 562

16 563 **Macro level: Community driving health (care)**
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19 564
20
21 565 There were instances in two different services of communities explicitly driving their health care. In
22
23 566 one location this occurred through a formal structure – the health committee with membership of
24
25 567 health centre staff, staff of other organisations, community leaders, and citizens. The committee
26
27 568 depended on relationships and networks built around trust and shared intent to improve the
28
29 569 communities' health. In this case, the relationships were longstanding. It also depended on a 'whole-
30
31 570 of-community' approach to health that was integrated into daily life. "Serving our people" was a
32
33 571 theme that ran through stories of health care and of whole of community involvement. The
34
35 572 comment below from a service user describes how participation in the health committee has had a
36
37 573 positive impact in terms of community taking control of their own health.
38
39
40
41 574

42
43 575 *This is a [state department] clinic, but it is on [location] – it is our community. So the focus on*
44
45 576 *community taking control of their own health is something we've tried to do; so we've come a*
46
47 577 *long way to where we are. I'm glad that it's evident and it shows how well we function.* [Health
48
49 578 service user, site 2]
50
51

52 579
53
54 580 Another example of communities driving health was the implementation of an Indigenous model of
55
56 581 healthcare for chronic illness, called the family approach. It involved considering the family and
57
58 582 community as the unit of care rather than the individual.
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3 5834
5 584 *...the family approach model requires the involvement of the whole of the primary health team*6
7 585 *and the community in - I guess probably not a clearly expressible fabric of interaction. But*8
9 586 *perhaps the essential component of it is around a health service agent and in this case it's*10
11 587 *been the family GP. A health service agent who engages with a broader family unit so it will be*12
13 588 *the oldest in the community and their siblings and partners and their children and siblings and*14
15 589 *partners and their children and siblings and partners. [External stakeholder, site 3]*16
17 59018
19 591 The explicit motivation for the introduction of this alternative approach to healthcare was to20
21 592 improve Indigenous health, particularly around chronic illness. It was energetically driven by an22
23 593 Indigenous manager of an Indigenous health service with strong links with the community.24
25 59426
27 59528
29 59630
31 59732
33 598 **The perceptions of staff and service users about why the services were high performing.**34
35 59936
37 600 Prior to the interview conclusion, participants were asked why they thought their service was38
39 601 continuously improving. Overwhelmingly the responses coalesced around the calibre of the staff at40
41 602 the services; their professionalism, energy, commitment, and stability. In each of the services,42
43 603 people gave staff actions in CQI as the reason for high continuous improvement, persistence in44
45 604 follow up, enjoying the challenge of providing a “decent level of care for people” and staff46
47 605 dedication to managing a challenging job.48
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3 607 *I think they do a challenging job, with the resources they have. The staff they stick it out. 'Coz if*
4
5 608 *someone's really sick, the only way off is by helicopter. And it's only the one chopper and if*
6
7 609 *they're busy, they may not get here.* [Health service user, site 1]
8
9

10 610
11
12 611 *In terms of insights, why we improved so much –we have very good staff.* [Health service staff,
13
14 612 site 5]
15
16

17 613
18
19 614 *I'd have to go back to my colleagues [to give the reason for improvement] – they're pretty*
20
21 615 *dedicated.* [Health service staff, site 3]
22
23

24 616

25 617 Another theme, but less frequently mentioned was the engagement of the health service with the
26
27
28 618 community.
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30 619

31
32 620 *But they also engage well with the community and they have the trust of the community and*
33
34 621 *that makes a big difference.. they're also pro-active in.. engaging the community with health*
35
36 622 *care.* [Health service staff, site 1]
37
38

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41 624 Finally, having a supportive environment for CQI, again linked to aspects about the staff, but also
42
43 625 being part of a well-functioning team was said to be related to high levels of continuous
44
45 626 improvement.
46
47

48 627

49
50 628 *I think a supportive environment is good....and everyone participating and everyone being a*
51
52 629 *team player and ...everyone takes responsibility so it's just sort of doesn't fall to one person...*
53
54 630 *so just keeping it supportive and ...and everyone's responsibility.* [Health service staff, site 4]
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58
59 632 **Discussion**
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5 634 This project explored in detail how CQI was operationalised at six Indigenous primary health care
6
7 635 services classified as “high-improving” services in response to CQI audits. Consistent with health
8
9 636 systems thinking there was interrelationship and interdependence of components including
10
11 637 policies, technical support systems, service providers and users (25). Whilst these services were
12
13 638 distinctive in the details of how they operated, there were also common factors in how they
14
15 639 operationalised CQI. Common themes amongst the services align with those previously reported
16
17 640 and with existing chronic care models, particularly those at the mesosystem or health service
18
19 641 level: CQI supports and systems within the health service, teamwork and collaboration (including
20
21 642 supportive leadership); and a stable and well-prepared workforce. Adding to our conception of
22
23 643 how CQI works in practice are some novel themes not often reported on in the literature. These
24
25 644 are: i) embeddedness in the local historical and cultural context; ii) two-way learning between
26
27 645 community and health professionals for CQI; and iii) the community “driving” health
28
29 646 improvement at the local level through joint planning, monitoring, and implementing new
30
31 647 Indigenous approaches to healthcare. Attention to these less-tangible elements introduces
32
33 648 additional complexity to how quality might be defined for health care providers working in
34
35 649 Indigenous health.

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41 650
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43 651 The finding that cultural embeddedness and responsiveness to the historical and cultural context
44
45 652 was a hallmark for these high improving services is important for two reasons. First, it confirms
46
47 653 the importance of community-control or strong community engagement in health services in
48
49 654 Indigenous communities but also provides a rationale for state run or private practices to embed
50
51 655 services in the cultural context. Second, the current move within the Australian context to include
52
53 656 a component of community feedback in quality assessment and accreditation is not comparable
54
55 657 in either intent or scope with what is expressed as cultural embeddedness by respondents in this
56
57 658 project.
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5 660 Services selected for case studies included both community-controlled health services and
6
7 661 those provided through government services. Previous quantitative analysis by the project
8
9 662 team demonstrated that a pattern that defined a “high-improving service” was not simply
10
11 663 explained by governance model, community size or remoteness (20). The model for
12
13 664 community-controlled health services has cultural embeddedness and mechanisms for
14
15 665 responding to community input at the core of their existence (although in practical terms how
16
17 666 effectively this is operationalised can vary; 21). However, this study suggests that cultural
18
19 667 embeddedness or responsiveness is fundamental for all services that aspire to offering high
20
21 668 quality care to Indigenous people, and that government services can also establish mechanisms
22
23 669 (formal or informal) for seeking direction from Indigenous community members and ensuring
24
25 670 mechanisms for meaningful input into the operations of the health service.
26
27
28
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30 671

31
32 672 Closely related to the finding about the importance of embedding CQI in the Indigenous cultural
33
34 673 and historical context is the concept of “two-way” learning. Our participants, both Indigenous
35
36 674 and non-Indigenous, reported on their understanding of “two-way” learning as a melding of
37
38 675 health professional technical knowledge with a deep understanding and respect of the
39
40 676 community’s customs, rules, and relationships. This was reported as ‘tuning in to people’.
41
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44 677

45 678 This is a very different concept than that of “community capacity building” which is regularly
46
47 679 referred to in health systems strengthening (26). Two-way learning has no presumption that it
48
49 680 is the health professional that is doing the capacity building and the community that is having
50
51 681 their capacity built in order to participate (27). The dominance of western-centric models of
52
53 682 health and health care requires that for true two-way learning there is an emphasis on health
54
55 683 professionals trying to see outside their own cultural frameworks. As Makuwira (2007) puts it,
56
57 684 because of the strength of Western ways of doing things we need to develop appropriate
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3 685 mechanisms through which a middle ground can be achieved, that is, a give and take between
4
5 686 health system personnel on one hand, and Indigenous communities on the other (28).

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7 687
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9
10 688 The other novel concept that emerges from our study is that of the community driving health
11
12 689 care. We note that health systems thinking includes the population that the health system
13
14 690 serves (29). The component of community is not perceived as a powerful actor influencing
15
16 691 implementation of CQI in the published literature to date. Nonetheless, it is not uncommon to
17
18 692 observe so-called “activated” communities powerfully solving health issues through planning,
19
20 693 devising alternate program or advocacy, especially in association with AACCHSs (30). Capturing
21
22 694 the concept of communities actively driving their health, usually in association with trusted
23
24 695 health professionals, might be better done through using the term co-production. Co-
25
26 696 production wherein equal and reciprocal relationships between professionals, people using the
27
28 697 services, their families and their neighbours underpin public service delivery (31).

29
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31 698
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34 699 The findings about the importance of understanding culture, two way learning, and community
35
36 700 driving, were not amongst the factors staff reported on when we directly asked health centre
37
38 701 staff and users their perceptions of the reasons for high performance. Perhaps this could be
39
40 702 associated with the mental maps held by participants of their CQI health system elements and
41
42 703 the interaction (32). Alternatively, it might be that in these high-improving services there is
43
44 704 implicit knowledge shared by staff, which is not openly discussed but rather deeply ingrained
45
46 705 understandings and ways of working.

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50 706

51 52 707 **Implications of study**

53
54 708 These findings have implications in terms of practical interventions to strengthen
55
56 709 implementation of quality improvement at a broad range of Indigenous PHC services. Our
57
58 710 findings suggest that there is now a need to broaden attention to include the broader
59
60

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2
3 711 organisational and interpersonal factors important in achieving change, with services.
4
5 712 According to our data, key amongst these factors is harnessing a shared interest in CQI amongst
6
7 713 a wide range of staff, managers and community members through their joint interest in
8
9
10 714 improving health outcomes for the community. This genuine and deep motivation about real
11
12 715 people that underpin the data and figures was noted by health service providers. A good
13
14 716 example of recognising and fostering joint endeavour and organisational change is the “CQI is
15
16 717 everybody’s business” slogan that is synonymous with the successful Northern Territory CQI
17
18 718 Collaboratives. The motivation for community members is poignantly expressed in terms of
19
20
21 719 health of family members.
22

23 720

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25
26 721 Specific initiatives to enhance the effectiveness of existing CQI initiatives might involve:
27
28 722 recruiting and supporting an appropriate and well prepared workforce (through appropriate
29
30 723 orientation and support materials); training in leadership and joint decision-making; supporting
31
32 724 and expanding the role of regional CQI collaboratives; and developing workable mechanisms for
33
34 725 two-way community engagement. Some of these recommendations for policy and practice are
35
36 726 outlined in more detail in Box 1.
37
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41 727 Support the health workforce to develop two-way relationships with community
42
43 728 members so improvement processes are embedded in culture and genuine
44
45 729 engagement.
46
47 730 Facilitate a prepared and stable workforce with attention to optimising the Indigenous
48
49 731 and non-Indigenous workforce mix in staff recruitment, orientation and retention.
50
51 732 Ensure that health service operational and IT systems support the routine practice of
52
53 733 CQI by all health service staff.
54
55 734 Institutionalise a quality improvement approach through collaborative decision-making
56
57 735 and embedding CQI in orientation, staff training, regular team meetings and regional
58
59 736 partnerships.
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4 737 Make the purpose of quality improvement explicit and shared with a focus on
5 738 improving client care and health outcomes.
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7

8 739 **Box 1. Recommendations for policy and practice**
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13 741 **Strengths and limitations**

14 742 This research has focused on learning from in-depth study of a sample of six Indigenous PHC
15
16 743 services across northern Australia. All services were selected based on sustaining high
17
18 744 improvement in more than one audit tool over at least two cycles in CQI initiatives. We
19
20 745 aimed to understand how these services operationalised quality improvement, “the secrets
21
22 746 of their success” at a local level. This focus on depth rather than breadth in numbers of
23
24 747 services necessitates some caution in generalising from the findings, however, a number of
25
26 748 factors enhance confidence that the findings are likely to have wider applicability across a
27
28 749 broader range of Indigenous PHC services, particularly those in northern Australia and
29
30 750 outside major cities. The participating services were broadly representative of a range of
31
32 751 service types, included three jurisdictions, a range of community sizes, rural and remote
33
34 752 communities and both government and Aboriginal Community Controlled Health Services.
35
36 753 Some were extremely isolated and discrete services, but two of them were major
37
38 754 “crossroads” communities, located at transport intersections, with a range of language
39
40 755 groups and communities attending the service. Thus, findings are likely to be generalizable
41
42 756 to some extent within the Australian Indigenous PHC context. The principles identified in
43
44 757 working with vulnerable and marginalised communities to engage them in ownership efforts
45
46 758 to improve their health and acknowledge their cultural beliefs are likely to be applicable to
47
48 759 in many other parts of the world.
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3 760 In addition, a strength was the large number of interviews (134), and the involvement of
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6 761 Aboriginal researchers in both data collection and interviews and in the analysis of the
7
8 762 qualitative data. Involvement of key stakeholders from the participating service as part of
9
10
11 763 the project team has enhanced the rigour and trustworthiness of our analysis and
12
13 764 enhanced the two-way learning embedded in our partnership approach to research.

15 765 **Conclusions**

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18
19 766 Services successful in improving quality of care: i) make CQI “everyone’s business” by
20
21 767 involving a wide range of stakeholders, including community; and ii) make explicit that CQI
22
23 768 supports a shared focus on improving client care and health outcomes. The services
24
25
26 769 involved active, visible and actionable engagement and input with and from the community
27
28
29 770 as part of this process. These findings suggest that in order for CQI to deliver the desired
30
31 771 outcomes, it is important to focus not only on “what” is done and by whom, but also the
32
33 772 underlying assumptions and processes about how it is done and the role of the community
34
35
36 773 in shaping these processes. The next step is identifying and implementing modifiable levers
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38
39 774 at each level of the system to use in implementation studies with services that are striving
40
41 775 to improve their quality of care in response to CQI.

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49 50 779 **List of abbreviations**

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54 780 CQI – Continuous Quality Improvement

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57 781 PHC – Primary Health Care
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3 782 ACCHS – Aboriginal Community Controlled Health Service
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6 783 **Declarations**
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10 784 Ethics: This work received ethical approval from Menzies/Top End Human Research Ethics

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12 785 Committee, from Queensland Health, from the Kimberley Aboriginal Health Forum and Western

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14 786 Australian Country Health
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17 787 Availability of data: Qualitative data is held by the research team at James Cook University. Audit

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19 788 data is held by the CRE-IQI and available on request.
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22 789 Competing interests: No competing interests were identified.
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26
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28
29 792 Integrated Quality Improvement in Indigenous Health (GNT1078927).
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34 794 from the participating services and our colleagues from the CRE-IQI who have helped shape our

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36 795 thinking.
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44 797 Author contributions
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46 798 SL, RB, VM, KCopley and ST conceived of the idea. NT, KCarlisle, JT and SL were all involved with

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48 799 data collection and analysis. SL, RW, KC, SC RB, ST, VM were involved in planning the project. All

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50 800 authors have reviewed and approved the final manuscript.
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Site	State	Governance	Rurality	Population	% identify as Indigenous	High improvement in	Conduct of CQI audits and SAT tools
1	QLD	Government	Remote	<=500	92	T2DM Maternal	<ul style="list-style-type: none"> • CQI coordinators have conducted the CQI audits each year from 2011-2013 • In 2014 QLD Health ceased investment in CQI audits • The 2015 audits were facilitated by the project team • SAT tools: completed by cluster coordinator • Goals for improvement are not set, shared or implemented with local staff
2	QLD	Government	Remote	<=500	99	T2DM Preventive Child Health	<ul style="list-style-type: none"> • CQI coordinators have conducted the CQI audits each year from 2011-2013 • In 2014 QLD Health ceased investment in CQI audits • The 2015 audits were facilitated by the project team • SAT tools: Feedback sessions with the cluster coordinator - local staff develop and implement goals for improvement.
3	WA	Government/ACCHO partnership	Remote	>=1000	66.5	Maternal T2DM	<ul style="list-style-type: none"> • Senior staff from regional population health unit conduct the audits • SAT tools: Based on data from the partnership's health care centre and conducted by an external facilitator
4	NT	Government	Regional	501-999	23	Maternal Preventive	<ul style="list-style-type: none"> • Health service manager organises and conducts the CQI audits with the assistance of all other clinical staff • SAT Tools: all staff review reports, look at areas needing improvement and set goals • Goals for improvement are discussed in meetings (regular agenda item), general observations, shared decisions on goal for improvement
5	NT	ACCHS	Remote	501-999	93	Preventive Child Health	<ul style="list-style-type: none"> • CQI audits conducted by Primary Health Care Coordinator located at regional health service organisation • SAT tools: service participates in weekly quality improvement discussions
6	NT	ACCHS	Regional	>=1000	100	Preventive Child Health	<ul style="list-style-type: none"> • Clinicians conduct the CQI audits • The audits are coordinated by the CQI coordinator and DMS. • SAT Tools: all clinicians participate in the SAT process • Goals are discussed by clinicians and strategies are determined together

Note: QLD = Queensland, WA = Western Australia, NT = Northern Territory, T2DM = Type 2 Diabetes Mellitus, DMS = Director Medical Services

Table 1: Characteristics of participating Indigenous PHC service

Table 3. Summarised within case analyses: Factors affecting continuous quality improvement (could be supplementary material)

Level	Theme	Site (1)	Site (2)	Site (3)	Site (4)	Site (5)	Site (6)
Macro	Linkages/ partnerships with external organisations	-	** “So [name] comes around quite frequently and gets an update on health because he’s on the Hospital Board. He goes around all the different agencies in the community for updates so he’s very proactive in that way.”	** “The partnership recognises that other agencies also contribute, so there is Mental Health, there is [name] Paediatrics that provides services, there’s also United First Peoples of Australia who provide services.”	** “You know we need really good relationships with services like [ACCHS] to sort it out. I know we’ve got some students that have organised with their Clinic to be able to get their medication while they’re here.”	* “AMSANT did one of their collaborative workshops in Katherine and the focus was on anaemia ...I know that we’ve shared data with the ABCD partnership stuff.”	* “There are very good relationships with stakeholders in Central Australia from clinical working on a daily basis, we need to strengthen those relationships.”
	Supportive external health service policies	* “So just because of the stability and the belonging and the Health Workers, in the communities, it’s more ideal to invest and give them the appropriate training.”	* “.. there’s a huge shift in the way Primary Health Care is delivered and it’s coming from the top. Before it was more acute. Executives have finally realised that...”	** “There was a really concerted effort to try and get people on fixed term contracts rather than agency. Or swap them over from agency to fixed term.”	** “We have received a lot of support from central – from N.T. Health. We are able to access the CQI coordinator if we need to, to get some advice.”	** “we probably find a lot of our support from the N.T. Health Government as well.”	-
	Understanding and responding to historical and cultural context	-	** “people need to, before they go and talk to people, they really need to sit back and understand their ways first. They need to know their audience.”	** “Find out the story of the people that you’re working for... that’ll give you a rough indication of where things are... It gives you a bit more understanding of	-	** “We have a pretty big focus on cultural safety and cultural security in the organisation. People get hammered at cultural orientation. If an issue arises we’ll nip it in the bud pretty	** “I’m a full supporter of Aboriginal Health Services and as a community we need to get behind them ...Our health is not improving and in fact... it’s actually gone downhill since the

				them.”		well straight away.”	intervention in the Territory”
	Community driving health (care)	-	** “The Health Committee in the community, introduced that because that was where we needed to be working and that was our support system. We’d all agree that we’ll be coordinating and that was the beginning of the direction of our future health”	-	-	** “consumer input into the governance of care ...that makes a big difference...but anything new that comes to us is provided in terms of a cultural and security framework and...that does help with engagement in care and participation, and some of the self-management stuff.”	-
Meso	CQI systems and supports at health service level	-	* “They do yearly checks on a few things and the health care staff here are quite good at monitoring – controlling who’s coming in and who’s going out..”	-	** “The CQI is something which is best done when someone’s interested in it and hopefully passionate. ...when they get the feedback that they’re improving things, they can see the difference that it’s making.”	** “So we have quite a tight structure around quality improvement. We do actively have a quality approach to the way that we deliver our health service and we actually announce that-we say that.”	** “We have embraced the process a lot more than what was in place before then. It’s a regular process now”
	Teamwork and collaboration: shared focus	** “We support each other. “We’re pretty tight as a unit.”	** “It’s the communication here, it’s just really open and [lack of experience] isn’t held against me so to speak. I suppose coz I’m fresh eyes as well. And I have been asked	** “We are a team and using the computer system while you’re triaging a mother for ...pain, ‘oh look she’s overdue, six week check.’ ‘Let’s just have a look at baby in the	** “They’ve got staff who really understand about how to deliver primary health care programs and they really think about and they have to think hard about how they do that for both an	** “When we think about why are we here? We’re here for our people out in our communities and how do we provide the service best we can ... we respond to their	** “They would work with a Health Practitioner usually...So they got to work in ways that they don’t normally work. So there was all this team-building type stuff, you know, and relationship

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			you know, 'if you see anything that you think is missing.'	pram. He's two months overdue his needles! That's the kind of things that we're trying to strive for."	Indigenous population and a non-Indigenous population"	needs and wants."	type stuff, in a different way, which was good."
Prepared and stable workforce for CQI	** "it's better to have one that's here coz they- they build a rapport with the locals and they get to understand a full history of the patient, which is good."	** "The Health Service runs smoothly because the continuity has always been there. So [name] knows the system and what kind of programs to deliver."	** "I honestly think local personnel and a fresh outlook has made a big difference [to the partnership] and that's continuity. Stopped this...churn of agency through this hospital."	** "The advantage they have is that they have a more stable staff and going right through from their reception staff to their clinical staff."	** "I think the benefit that we have here is a very stable Leadership Group. So all of the people ...have been here for at least five years...and some of us for ten. I see in terms of staffing, I see stability now that I've never seen in the past."	** "I think that they have consistent staff which makes a difference. A lot of the other health centres that you go to every time you go there's a different staff member there that makes it difficult. So having consistent staff is one of the big keys."	
"Two way learning" for CQI (Indigenous culture and health)	-	** "I always like to use the word tuning in – tuning in to people. Different frequencies. Listen to them. Understanding them and I can utilise my knowledge with their knowledge to bring a level of half understanding between [us]."	** "What was working really well, through the partnership is the Family Approach program. The first step was to introduce the doctor to the traditional owners of that place, then meeting the chairperson, explaining the Family Approach to them and the Council and the community."	-	** "We go out yearly and hold open community meetings..Management staff will go out, put ourselves in front of the community...give an update on what we've done for the last twelve months...open that up to the community and our performance review begins at that point. You tell us from a grass roots perspective, ...and if we've got challenges then [they] will certainly let us know."	** "I think having the Aboriginal health workers on board? It's that two-way learning and I'm a believer of two-way learning and that is between health workers and the doctors."	

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3	Micro	User/community	**	**	**	**	**
4		engaged with the					
5		service	**	**	**	**	**
6			"We have regular	"People seem to trust	"One of the 'hooks' for	"The people that do	"We have a client
7			women's nights where	and follow up on their	Aboriginal people to	come to the clinic, they	population that is I
8			we can promote	own health, instead of	get involved in the	come when they're	suppose, regularly
9			friendship, getting	people having to go out	health services was the	called in general and	interacting with the
10			together and support."	and collect them, which	Aboriginal and Torres	they engage. They try	health system."
11				is quite interesting as	Strait Islander health	and do what you ask	
12				well. Like the health	checks – just around	them to do. They're	
13				behaviour here is I	the engagement with	very actively managed	
14				think a bit different	the families getting	by the clinic in terms of	
15				than the type of places	families in, getting	getting them in here	
16				I've been"	them engaged."	and they get good	
17						service when they	
18						come in...and they	
19		"Going the extra	**	**	**	**	**
20		mile" and staff					
21		caring,	"They go that little	"[name] has been there	"You know, it's	"I had bleeding so we	"...well they're doing
22		commitment	extra mile I think to do	for a number of years	respectful and they	rang up the clinic and a	everything all alright.
23			those extra things like	and has gained the	listen to you if you got a	Health Worker she got	They get along with the
24			the afterhours events."	trust of many	problem. You know, a	a hold of the nurse.	community people.
25				community members.	lot of health centres	Well by the time I got	They go around, they
26				[name] is part of	don't listen to their	to the clinic, she rang	have a yarn to people.
27				community."	community people	and apologised. She	If they need to chase
28					when they go in and	even pulled her kids out	someone down, they
29					some are very hard to	of the bath to get over	go and do that."
30					talk to, but you can go	to me. So I mean that's	
31					up any time and talk to	real dedication."	
32					them about anything if		
33					you need to."		
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37		**Clearly present	*Present to some degree	- Not clearly present			
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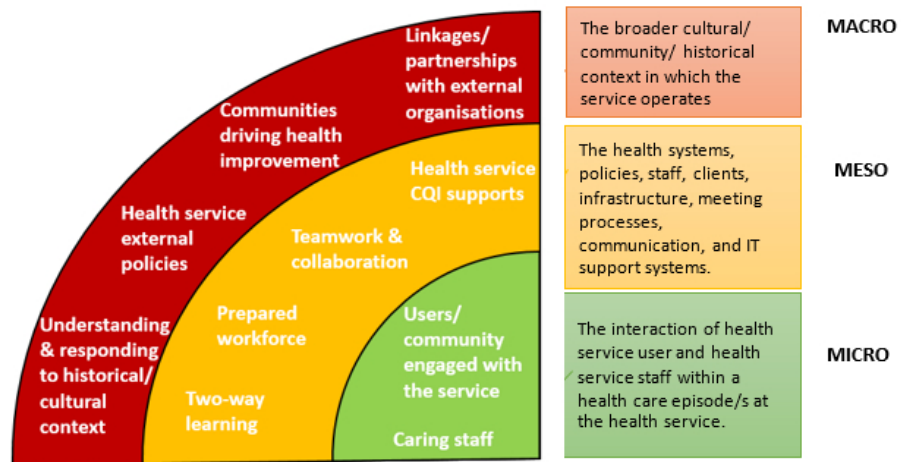


Figure 1: Factors influencing CQI at high improving services

Figure 1: Factors influencing CQI at high improving services

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2 SRQR checklist for manuscript: "At the grass roots level it's about sitting down and
3 talking": Exploring quality improvement through case studies with high-improving
4 Aboriginal and Torres Strait Islander primary health care services
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	Reporting Item	Page Number
Problem formulation	#1 Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	3,7,9-10
	#2 Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	3-4
	#3 Description and significance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	6-7
Purpose or research question	#4 Purpose of the study and specific objectives or questions	7
Qualitative approach and research paradigm	#5 Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	7-8
Researcher characteristics and reflexivity	#6 Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers'	32

characteristics and the research questions, approach, methods, results and / or transferability

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4	Context	#7 Setting / site and salient contextual factors; rationale	32-33
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6		Reporting Item	
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8	Sampling strategy	#8 How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	7-9
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12	Ethical issues pertaining to human subjects	#9 Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	9, 33
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17	Data collection methods	#10 Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	8-9
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23	Data collection instruments and technologies	#11 Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	9
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28	Units of study	#12 Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	10
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32	Data processing	#13 Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	8-9
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36	Data analysis	#14 Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	8-10
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41	Techniques to enhance trustworthiness	#15 Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	8-9
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			Page Number	
1	Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	10-26
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4	Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	10-26, Supplementary materials Table 3
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8			Reporting Item	
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10	Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	27-30
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16	Limitations	#19	Trustworthiness and limitations of findings	31-32
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18	Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	33
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22	Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	33
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