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Title: **A pilot evaluation measuring the impact of a Community of Practice in Aboriginal health.**

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Abstract

There is limited understanding of effective strategies to enhance the competence of practising health professionals. Communities of Practice have been proposed as strategy, yet little is known about their ability to develop cultural competency and practice. This small, yet unique pilot evaluation aimed to measure the impact of a Community of Practice on the self-perceived cultural competency and change to practice of dietitians working in Aboriginal health. A mixed-method evaluation including a 16-item cultural-competency self-assessment tool (completed at baseline and after 12 months of participation) together with the most significant change technique were used to evaluate. Data from competency assessment and interviews were compared together for congruence and difference. All 13 participants completed the cultural competency-self assessment and interview. The Community of Practice was found to increase confidence for their work in Aboriginal health through improved cultural competence in understanding factors related to the impact of history, culture and utilisation of resources on service delivery, appropriate communication strategies, effective relationships and managing conflict. This pilot evaluation suggest that formalised and structured Communities of Practice may be an effective workforce development strategy to influence the practice of health professionals working in Aboriginal health.

Key words dietitian; Aboriginal; Cultural Competence; evaluation; health professional, reflective practice.

Introduction

Australia's Aboriginal and Torres Strait Islander communities are ancient, diverse, and resilient (Australian Government 2015). The current health status of Aboriginal and Torres Strait Islander peoples (hereafter referred to as Aboriginal*) has been significantly impacted by colonisation and subsequent policies (Australian Indigenous HealthInfoNet 2015). Australian Aboriginal people experience a burden of disease that is two and a half times that of the burden of disease experienced by the total population in Australia (Vos et al. 2007) and have on average a 10 years lesser life expectancy than other Australians (Australian Bureau of Statistics 2010). Much of the health status of Aboriginal people can be explained by nutrition with dietary risk factors identified as the most significant risk for Aboriginal people (Vos et al. 2007, Australian Institute of Health and Welfare 2015). Addressing dietary risk factors is important to address this disease inequity.

Dietitians are an important health professional group trained as experts in food and nutrition who have the capacity to work with Aboriginal people to address dietary risk factors. A well-equipped health professional workforce is essential to improve Aboriginal health (Anderson 2009). It is vital that this workforce is trained to work with Aboriginal people in a culturally safe and effective way. Dietitians working in Aboriginal health need the capacity to reflect on their practice and confront their attitudes, approaches and assumptions (Wilson 2014). Having an understanding of Aboriginal history, including colonisation and past policies, has also been shown to lead to better engagement in practice with Aboriginal people and communities (Wilson et al.

* The term 'Aboriginal' is used in this context to be inclusive of Aboriginal and Torres Strait Islander peoples. This is use of terminology considered preferable to the term 'Indigenous' and is consistent with position statement of the National Aboriginal Community Controlled Health Organisation.

2015). Non-Aboriginal dietitians working in Aboriginal health are often sole practitioners who experience professional isolation with little opportunity to gain support from their workplace (Wilson 2011). Cultural competence is a key element of professional practice (Palermo et al. 2015) yet the Aboriginal health curriculum content varies greatly between university dietetics programs (Edwards 2005, Wilson and Mehta 2015). Consequently dietitians commencing work in Aboriginal health often experience challenges. There is a need to identify suitable strategies to support, develop and retain this workforce in Aboriginal health.

Continuing education to support and develop health professionals must involve meaningful learning to impact on the health of the patients and communities they serve (Moore, Green, and Gallis 2009). Communities of Practice are a concept that describe the learning that occurs through social relationships characterised by a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen in their knowledge and expertise of this area by interacting on an ongoing basis (Wenger, McDermott, and Snyder 2002). Originally, the model was used to described an informal network of colleagues who share resources and create new knowledge to advance a topic of professional practice (Wenger 2000), and has developed to more formalised networks in health have been created in the attempt to facilitate the process of co-learning in health care through their work and the development of relationships (Evans et al. 2014). A Community of Practice has been shown to support dietitians experiencing professional isolation and split function roles (Palermo, Hughes, and McCall 2010a) and who work with remote Aboriginal community stores (Holden et al. 2015). While this evidence suggests that a Community of Practice may be a useful workforce capacity building intervention for public health prevention work, there is a

need to explore its ability to support other contexts of dietetic practice and also to identify the alternative evaluation methods that may be useful to determine success.

This study aimed to evaluate the impact of a Community of Practice for dietitians working in Aboriginal health on their self-perceived cultural competency and change to practice.

Methods

A formalised and structured Community of Practice was implemented for dietitians who had a specific role in working to improve the nutrition and health of Aboriginal individuals and communities across Australia. The Community of Practice aimed to build the capacity of these dietitians to work in Aboriginal health through participants' personal and professional development and critical reflection. A formalised Community of Practice was chosen over other models due to its effective use in similar settings, its focus on peer to peer mentoring, and method of facilitated critical reflection, which was believed to be a good fit with the values of working in Aboriginal health (Wilson 2011, Wilson et al. 2015). Ethics approval was obtained from the [removed for blind review].

Recruitment to the Community of Practice was self-selecting utilising an email advertisement through the Indigenous Nutrition Interest Group email list serve of the Dietitians Association of Australia. Inclusion criteria required dietitians to be working with Aboriginal communities as a key part of their employment and able to commit to at least 12 months involvement in the Community of Practice. There was no requirement regarding number of years of experience in working in Aboriginal communities. Dietitians in their provisional/internship first year of practice were excluded because

their credentialing requirements include mandatory one-to-one mentoring for 12 months.

The Community of Practice was initially piloted over a 12 month period during 2013 with four participants. Given the preliminary success of the pilot (Wilson, Delbridge, and Palermo 2016b) the Community of Practice was offered again in 2014. The Community of Practice was built on the core feature of *relationship building*, *learning*, *knowledge creation* and *collaboration*. It commenced with a four-hour face-to face-workshop, which was held for convenience as a pre-conference workshop at the Dietitians national conference. Financial assistance was offered to attend the face-to-face workshop. The purpose of workshop was to allow participants the opportunity to get to know one another and to support the establishment of trust, which had been previously determined to be an important part of effective group functioning (Palermo, Hughes, and McCall 2010b) and identified as a challenge in the establishment of virtual communities (Hughes, Jewson, and Unwin 2013). The researchers sought to create a safe place for dietitians to discuss and share the joys and challenges of working in Aboriginal health, by getting to know each other professionally and personally and affirming group confidentiality (*relationship building*). Each participant wrote individual learning objectives to focus their development during the Community of Practice (*learning*). The formalised sessions were conducted through two-hour videoconferences using *Skype*™ every six-weeks, over a 12 month period, which were led by one of the two peer-facilitators (the authors RD & AW). During each session, participants shared stories of practice or challenges in their Aboriginal health work. The facilitators used questions to facilitate reflection and invited fellow participants to share

common stories, insights for ways to practice or encouragement to their peers (*knowledge creation* and *collaboration*).

A concurrent mixed method evaluation approach (Creswell and Clark 2007) was undertaken whereby the researchers sought to determine the utility and impact on practice of the Community of Practice as a workforce development strategy. The mixed-method approach involved pre- and post- cultural competency self-assessment and an adaptation of the most significant change technique. This pragmatic approach aimed to develop different but dependent stories that when analysed together would be more powerful than the independent methods on their own (Patton 2015). It also aimed to test a simple evaluation approach that could be used for others aiming to evaluate other Communities of Practice. Qualitative evaluation has been reported elsewhere (Wilson, Delbridge, and Palermo 2016a).

The cultural competency self-assessment was a 16 item tool that included competency statements derived from 'Working effectively with Aboriginal and Torres Strait Islander communities' competencies (Australian Government 2012). These competencies are derived from a government course which is designed to enable individuals to communicate and work effectively with Aboriginal people in a health context (Australian Government 2012). The competencies were developed into a self-evaluation tool and have been used to evaluate previous professional development activities (Browne et al. 2013). These competencies were chosen as the framework because of their focus on issues previously shown to impact on dietetic practice, including an understanding of Aboriginal history (Wilson et al. 2015). Participants were asked to rate themselves on a Likert scale of self-perceived ability against each statement from 1

(not competent) to 5 (very competent) at baseline and after the final session 12 months later. In addition, basic demographic information about participants was collected at baseline including years of experience and work role. The authors acknowledge that there are many approaches to the skill set of working in Aboriginal health, including but not limited to cultural competence, cultural safety, cultural awareness and cultural respect (Downing, Kowal, and Paradies 2011). A detailed discussion of the different approaches is not the purpose of this paper. The authors acknowledge the limitations of the cultural competence movement including the need for more valid and reliable tools to evaluate programs and further development of tools that are able to measure the influence of culture (Echo-Hawk 2011). While cultural competence has a range of definitions, in this context it was defined it as a practitioner's ability to work effectively with clients who are culturally different to themselves (Taylor and Guerin 2010).

The most significant change technique is used to evaluate complex interventions. It involves the creation of significant change stories by the participants who experience the intervention within their socio-cultural context and a process of prioritising the identified themes through group discussion (Davis and Dart 2005). Drawing from most significant change, the approach used aimed to create a story of the impact of the Community of Practice on the work practice of participants. At the completion of twelve-months of participation, each participant was invited to participate in a semi-structured, individual, in-depth, telephone interview. The interviews were conducted by one author (CP) who was known to participants, was familiar with the model and could delve deeply into understanding their experience, but was not formally part of the intervention. Among other evaluative questions (reported elsewhere) the participants were asked "What was the most significant change you implemented in your workplace

that you could attribute to being part of the community of practice, and why was this change significant?"

All participants completed the pre-post competency self-assessment and interview. Data from competency self-assessment were analysed using basic descriptive statistics using IBM SPSS Statistics, Version 20.0 (IBM Corp., Armonk, NY. Data from the interviews were audio recorded and transcribed verbatim. Text responses to the most significant change question were summarised by the last author who was independent of the Community of Practice, but familiar with the work area and concept of as a learning system. The summary was presented to participants who came together to agree on key change stories that resulted from participation in the Community of Practice. This summary was presented to a sub-group of seven participants via a group videoconference discussion. Participants were asked to verify the summary. Written notes on this consensus and discussion were taken. Data was summarised as illustrative text and quotes from interviews used to assist describe the findings. A finalised summary was then sent to participants via email for verification. As part of the concurrent mixed method design, the results from the questionnaire were triangulated with the most significant change and interpreted together (Creswell and Clark 2007).

Results

A total of 11 dietitians expressed interest in being part of the Community of Practice in 2014 and were eligible. This included two of the four pilot program participants, and an additional nine dietitians who met the inclusion criteria. Five dietitians expressed interest but were excluded from participating as they were unable to commit for the explicit 12 month period due to reasons such as maternity leave (n=1), provisional APD status (n=2), extended period of travel (n=1) and unsupportive employer (n=1). Two

authors (RD & AW) participated, making a total of thirteen participants. The work role and years of experience varied greatly among participants (Table 1). All dietitians identified as non-Aboriginal. A total of nine sessions were conducted over the 12 month period with participants attending 4 sessions (median, range 1 to 8). Participating dietitians were highly motivated and willing to improve their practice, demonstrated by their self-selection, ongoing participation, setting learning goals and willingness to discuss examples of their practice and assist others.

All of the 13 participants completed the pre- and post- cultural competency checklist and contributed to the description of the most significant change. As insiders to the research two authors facilitated the Community of Practice and thus participated in the evaluation. This insider positioning supported the development of trust with participants and allowed the researchers to experience the intervention while at the same time evaluating its impact. When analysed together the data revealed two main findings: (i) the Community of Practice increased perceived competence and (ii) provided participants' confidence to embark on new or challenging work.

Participants reported a significant increase in perceived competence across nine of the sixteen cultural competency statements from baseline to the 12 months (Table 2). The same trends were observed for authors and participants who had been involved in the pilot program, although the greatest impact was on the 9 new participants (median increase across all indicators +1, compared to authors +0.25, and +0.5 for pilot participants. The change in cultural competence related to the specific items describing the impact of Aboriginal history, culture and utilisation of resources on service delivery, communication strategies, effective relationships and conflict resolution. This was

congruent with the summary from the most significant change story whereby participants agreed that the most significant change as a result of participating in the Community of Practice was a perceived increase in confidence for working in Aboriginal health and nutrition. The concept of confidence was characterised as both professional and personal confidence, and was part of participants being able to trust how they are feeling in their roles within Aboriginal communities. Some participants described their confidence as a result of resonating with other peoples' experiences and realising that they are not alone in their experience. Others described the confidence built from the sharing ideas and resources between the group, and often made contact with each other outside of formal sessions. Learning that feelings of discomfort and uncertainty were common amongst the group helped to normalize these feelings, increasing their confidence and reducing personal barriers in order to better navigate cross cultural work. Participants highlighted the assuring influence of having a space to unpack the social, political, spiritual and cultural landscapes they worked within. They reported that the group was a safe place to build self-confidence in personal and professional aspects of their practice, and that out of this confidence grew.

"being really conscious when I get out into community that the loudest voices are usually the …. white people voices, and they'll tell me every reason why people aren't eating well, what they think of the store, and all those sorts of things, whereas I'm really trying to find some strong people in the community that can tell me the story..."
(participant 13)

All participants described how the Community of Practice led to them changing their dietetic practice. They reported feeling more confident in their knowledge and

experience of Aboriginal health to be able to make changes to their practice effectively. Changes in dietetic practice were attributed to three specific characteristics of the experience. First, the facilitated reflections led to participants finding a deeper understanding of their practice and feeling supported to make changes. Second, the building of a trusted network of peers led to new collaborations and ways of working together. And third, listening to the shared experiences and ideas of other participants led to implementing or trailing new ideas in one's own practice.

I wanted to start running an exercise program, and people in the community had requested it, so I guess before I would've just said, "Yes, let's start an exercise program. … but I guess reflective practice has helped me stop and consult some other people, talk to the community, work out what it is they really want, then move on to the next step. Make sure you've got all those plans in place and all the background stuff done before you jump straight into running it. It's been a whole lot more successful than any other program I've started. (participant 11)

The Community of Practice was reported to provide a profound continuing professional development model for dietitians working in Aboriginal health. Participants explained that it provided a professional development opportunity in Aboriginal health and nutrition that supports deep reflection, strong peer relationships and influenced their dietetic practice. Participants described outcomes of what happened for them as a result of their built confidence. These outcomes included: tackling large projects they had previously been avoiding, using meaningful methods for deep listening to Aboriginal Elders to inform practice, starting post-graduate study, finding a new perspective on how to engage with their community more effectively, exploring what is meaningful

research and evaluation in Aboriginal health, mentoring other dietitians, incorporating reflective practice into routine work, preventing burn out, continuing a career with Aboriginal communities and feeling capable of being a stronger advocate for Aboriginal health issues in professional and personal contexts.

"I think the really practical thing that I've done is that I've pushed ahead with revising the catering guidelines in my workplace, and I sort of did that with extra ideas in my - under my belt, and it gave me a lot of confidence to tackle this thing that's been the elephant in the room for the last, probably three years." (participant 8)

Discussion

This small, pilot mixed-method evaluation aimed to capture the impact of a Community of Practice for dietitians working in Aboriginal health on their attitudes, practice and cultural competency using self-assessed competence and the most significant change technique. Although only a small case study the findings suggest that the Community of Practice appeared to give dietitians increased confidence to work in the field through improved competence in understanding factors related to the impact of Aboriginal history, culture and utilisation of resources on service delivery, appropriate communication strategies, effective relationships and managing conflict.

Continuing education for healthcare professionals is recognised as an important investment for improving the health of the population (Brown, Belfield, and Field 2002). The evidence suggests that strategies with practice-reinforcement and those that create a 'teachable moment' and develop competence related to this identified learning need are more effective (Davis et al. 1995, Moore, Green, and Gallis 2009). Structured

Communities of Practice may provide a cost-effective continuing education activity for health professionals, however there is a dearth of literature pertaining to their impact on health care and cost effectiveness (Ranmuthugala et al. 2011, Li et al. 2009). This study suggests that this relatively modest investment led to a change in self-reported practice. The initial face-to-face engagement coupled with regular, virtual meetings appeared effective in the establishment of trust. Other elements such as having a mix of experienced and novice practitioners across different workplaces, which have been presented as further considerations for communities of practice (Hughes, Jewson, and Unwin 2013), may also have contributed to success. Further work measuring the effect on the Aboriginal Communities in which Community of Practice participants work, together with cost-effectiveness, as has been performed for other educational interventions (Maloney et al. 2012) would provide even stronger evidence of its worth. This is of particular relevance when it comes to measuring cultural competence. While dietitians may rate themselves as having good cultural competence, ultimately this should be judged by the patient receiving the care.

This study adds to the evidence that a formalised and structured Community of Practice appears to be an effective workforce development strategy that may influence the practice of dietitians who work in direct care and population-based preventative health or policy roles. The findings are congruent with other studies evaluating Communities of Practice or mentoring-type group models for dietitians working in similarly challenging roles (Holden et al. 2015, Palermo, Hughes, and McCall 2010a). All these studies are limited by the lack of a control group or randomised intervention design. Systematic reviews of Communities of Practice in healthcare practice have found similar gaps in effectively measuring impact (Li et al. 2009, Ranmuthugala et al. 2011).

However the consistency of findings suggest that there is merit in supporting the workforce using this type of group network model. It is unlikely that a randomised controlled trial would result in better evidence for evaluating the complexity of the impact of this Community of Practice (Sullivan 2011). An adaptation of the significant change technique (Davis and Dart 2005) was useful in focussing the perceived impact on the group as a whole and may be considered for the evaluation of other continuing education strategies. The evaluation methodology needs to broaden in scope from measuring value and impact to include, for example, network analysis (Scott 2012) to more effectively examine the complexity of the interactions that facilitate learning. However, it may be a useful model for practitioners wishing to evaluate the effect of similar types of continuing education.

Self-assessment of cultural competence is generally not considered a reliable and valid form of determining actual performance of clinicians in the workplace and distinct to confidence (Davis et al. 1995). Self-assessment of competence reflects participant's awareness of and reflection on competence and is used as the mechanism for performance review and professional development in dietetics (Weddle et al. 2002). Coupled with the most significant change technique it was effective in identifying the increase in confidence of the Community of Practice due to feelings of support from colleagues who had shared similar experiences and verification of feelings and approaches to complex situations. There remains value in self-assessment of competence to identify learning needs and measure where change to confidence has been achieved, particularly for self-nominating individuals who have identified and prioritised the need for further education (Moore, Green, and Gallis 2009). An area for

future research is to reconcile self-assessment of cultural competence with patient/client or community experience.

The transferability of the study findings to dietitians in other settings or to practitioners not highly motivated and willing to improve their practice is not known. The study was strengthened though the use of a concurrent mixed method design together with triangulation of qualitative data analysis. The authors also acknowledge the lack of involvement of Aboriginal people within this work and the small sample size limiting its transferability. However, it provides a simple evaluation design for others wishing to measure the impact of similar continuing education strategies.

This pilot evaluation suggest that formalised and structured Communities of Practice may be an effective workforce development strategy to influence the practice of health professionals working in Aboriginal health.

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Table 1. Demographics of participants the Community of Practice.

	Participants n=13
1 to 5 yrs	3
6-10 yrs	6
11-20 yrs	0
20+ yrs	4
Practice context	
- Direct patient care	6
- Population health/policy/prevention	6
- Academia	1
Location of work	5
- Urban	8
- Rural/regional	
Mean (±SD) sessions attended	4.5 ± 1.7 (out of 8) range 1 to 8

Table 2. Aboriginal cultural awareness self-assessed competency pre- and post-participation in the Community of Practice.

		Median (IQR) Score Pre	Median (IQR) Score Post	Difference
1.1	Acknowledge and respect the impact of events and issues in Aboriginal history during service delivery	3.5 (3.0, 4.0)	4.0 (3.3, 5.0)	+0.5
1.2	Demonstrate knowledge of and respect for the diversity of culture, skin and language groups, family structures, art and religion in Indigenous cultures as part of service delivery	3.5 (3.0, 4.0)	4.0 (3.0, 4.0)	+0.5
2.1	Identify the potential impact of cultural factors on service delivery to Aboriginal clients	3.0 (3.0, 4.0)	4.0 (4.0, 5.0)	+1
2.2	Address cultural realities in order to facilitate full participation in service delivery by Aboriginal clients	3.0 (3.0, 3.0)	4.0 (3.0, 4.0)	+1
2.3	Negotiate appropriate strategies to effectively accommodate cultural differences in the workplace	3.0 (3.0, 4.0)	4.0 (3.0, 4.0)	+1
2.4	Identify and utilise resources to facilitate effective service delivery in a cross cultural context	3.5 (3.0, 4.0)	4.0 (4.0, 4.0)	+0.5
2.5	Ensure work practices are grounded in an awareness of one's own culture and the cultural realities of others	4.0 (3.0, 4.0)	4.0 (4.0, 5.0)	0
3.1	Identify communication issues and ensure they are addressed to develop and maintain effective relationships	4.0 (3.0, 4.0)	4.0 (3.0, 4.0)	0
3.2	Employ appropriate communication strategies to support a culturally safe environment for delivery of health services	3.5 (3.0, 4.0)	4.0 (4.0, 5.0)	+0.5
3.3	Identify ineffective/inappropriate communication strategies and remodel them to support delivery of health services	3.0 (3.0, 4.0)	4.0 (3.3, 5.0)	+1
3.4	Identify and utilise resources to facilitate effective communication within the workplace	4.0 (2.3, 4.0)	4.0 (3.0, 4.8)	0

3.5	Engage the services of Aboriginal health workers and colleagues as cultural brokers to meet duty of care	4.0 (3.0, 5.0)	5.0 (4.0, 5.0)	+1
4.1	Ensure workplace relationships are based on mutual respect, tolerance of diversity and cultural safety	4.0 (3.0, 5.0)	5.0 (4.0, 5.0)	+1
4.2	Identify critical issues influencing workplace and professional relationships with Aboriginal co-workers and clients	3.0 (3.0, 3.0)	4.0 (4.0, 5.0)	+1
4.3	Negotiate and utilise effective strategies to develop and maintain effective relationships with Aboriginal co-workers and clients	3.0 (3.0, 4.8)	4.0 (4.0, 5.0)	+1
4.4	Take responsibility for revisiting strategies to assist in the resolution of any difficulties, differences or misunderstandings that may occur	3.0 (3.0, 4.0)	4.0 (3.0, 4.8)	+1