Public Health in Practice 3 (2022) 100221

Contents lists available at ScienceDirect

Public Health in Practice

journal homepage: www.sciencedirect.com/journal/public-health-in-practice

Study protocol: *Clinical yarning*, a communication training program for clinicians supporting aboriginal and Torres Strait Islander patients with persistent pain: A multicentre intervention feasibility study using mixed methods

Christina M. Bernardes [a,*], Ivan Lin [b], Stephen Birch [c], Renata Meuter [d], Andrew Claus [e], Matthew Bryant [f], Jermaine Isua [g], Paul Gray [e], Joseph P. Kluver [h], Stuart Ekberg [d,1], Gregory Pratt [a,1]

[a] *Aboriginal and Torres Strait Islander Health Research Program, QIMR Berghofer Medical Research Institute, Brisbane, Queensland, Australia*
[b] *Western Australian Centre for Rural Health (WACRH), The University of Western Australia, Geraldton, Western Australia, Australia*
[c] *Centre for the Business and Economics of Health, The University of Queensland, Brisbane, Queensland, Australia*
[d] *School of Psychology & Counselling, Queensland University of Technology, Brisbane, Queensland, Australia*
[e] *Tess Cramond Pain and Research Centre, Metro North Hospital and Health Service, Brisbane, Queensland, Australia*
[f] *North Queensland Persistent Pain Management Service, Townsville Hospital and Health Service, Townsville, Queensland, Australia*
[g] *Aboriginal & Torres Strait Islander Health Division, Cultural Capability Services, Queensland Health, Brisbane, Queensland, Australia*
[h] *Persistent Pain Clinic, Metro South Hospital and Health Service, Brisbane, Queensland, Australia*

ARTICLE INFO

Keywords:
Communication
Training
Clinicians
Study protocol
Aboriginal
Torres Strait Islander

ABSTRACT

Objectives: Ineffective communication between healthcare clinicians and Aboriginal and Torres Strait Islander patients with persistent pain is a significant barrier to optimal pain management. This manuscript is a study protocol and describes the development and evaluation methods of a tailored, culturally-informed training program, to improve clinicians' communication with patients.
Study design: This is a single-arm, multicentre (2 metropolitan and 1 regional persistent pain service) intervention feasibility study that will be evaluated using mixed methods.
Methods: A communication training program will be developed informed by qualitative interviews with key stakeholders, and adapt the patient-centred 'clinical yarning' framework for the Queensland context. Evaluation of the effectiveness of the training will involve the analysis of quantitative data collected at three study sites over a 12-month period. At the patient level, communication experience will be rated at differing times of the training rollout to reflect participants' experience of communication either prior to or following the treating clinician attending the communication training. At the clinician level, evaluation of the training program will be based on changes of ratings in the importance of training, knowledge, ability and confidence to communicate with Aboriginal and Torres Strait Islander patients; satisfaction, acceptance and relevance to their clinical practice. This study will be grounded in the needs and preferences of communication of Aboriginal and Torres Strait Islander people living with pain.
Conclusion: It is hypothesized that the patient-centred intervention will have immediate benefits for patients, improving patient experience of care. This research will focus on an area of unmet need in addressing persistent pain.

1. Introduction

Nationally, persistent pain (i.e. pain lasting > 3months) costs the Australian economy ≈ $139 billion per annum, impacting more than 68% of Australians of working age, accounting for 6.8% of the total burden of disease in Australia and 6.5% of total health system

* Corresponding author. QIMR Berghofer Medical Research Institute, 300 Herston Road, Herston, 4006, Brisbane, Queensland, Australia.
E-mail address: Christina.bernardes@qimrberghofer.edu.au (C.M. Bernardes).
[1] SE and GP contributed equally.

https://doi.org/10.1016/j.puhip.2021.100221
Received 12 October 2021; Received in revised form 7 November 2021; Accepted 26 November 2021
Available online 11 December 2021

expenditure [1].

To date, there has been a significant failure in Australia's ability to 'Close the Gap' between persistent pain management for Aboriginal and Torres Strait Islander people and the remainder of the Australian population [2–5].

A literature review by Arthur and Rolan (2019) [2] examining pain experience, assessment and management for Aboriginal and Torres Strait Islander peoples (in some instances hereafter respectfully referred collectively as Indigenous Australians) reported that communication is an important factor to improve pain assessment and management. This review also described the implications of the misinterpretation of Aboriginal and Torres Strait Islander culture for pain healthcare provision: a) Deficits in knowledge and appreciation of cultural schema resulting in a tendency to use inappropriate tools to measure pain; b) Cultural and language barriers impeding the clinician's ability to sensitively interpret, assess and manage pain; c) Pain being expressed in a way that the clinician is unfamiliar with and the tendency for the clinician to misinterpret cues such as a patient appearing to be comfortable and pain free; d) Pain being under-reported, possibly because patients do not want to appear weak; e) The potential for historical treatment of Aboriginal and Torres Strait Islander people, their family and communities to influence and impact their trust of health personnel, services and systems and, f) A reluctance among Aboriginal and Torres Strait Islander patients to use opioids, even in palliative care.

In Queensland, Australia, the disease burden for Indigenous Queenslanders is 2.2 times the rate for non-Indigenous Queenslanders [6]. The Closing the Gap Strategy and Recommendations for Reset, a ten-year review document, points to the failure of the strategy to reduce inequality between Indigenous Australians and non-Indigenous Australians and that the focus on preventing and supporting people to better manage chronic diseases must be maintained [7]. Chronic diseases account for 70% of the health gap that exists between Indigenous and non-Indigenous Australians. Evidence suggests that there is a greater burden and prevalence of pain amongst Aboriginal and Torres Strait Islander people [3]; Aboriginal and Torres Strait Islander people may be 'quiet about pain, '*because no one listens to us anyway*' [5] and that pain may be under-recognised and poorly treated [8–10]. Referrals of Aboriginal and Torres Strait Islander people to pain management services remain low [11].

This study aims to: **(Aim 1)** Introduce a novel patient-centred communication framework for Aboriginal health care entitled 'clinical yarning' [12] and, adapt based on feedback from Indigenous patients with persistent pain, their family/carers, and health professionals of pain specialist services in three sites in the Australian state of Queensland;

(Aim 2) Identify barriers and enablers to effective communication between health professionals and patients with persistent pain in Queensland. Draft, refine and validate the clinical yarning training program;

(Aim 3) Deliver the clinical yarning training program and determine changes in communication, patient, and clinician outcomes after implementing clinical yarning training;

(**Aim 4)** Explore the feasibility of implementing clinical yarning training in the Queensland context.

2. Methods/design

This is a single-arm, multicentre (2 metropolitan and 1 regional persistent pain service) intervention feasibility study that will be evaluated (pre and post-training measures) using mixed methods. The study uses a consultative approach involving key stakeholders (Aboriginal and Torres Strait Islander patients diagnosed with persistent pain, family members, Queensland Health Cultural Capability Network and Aboriginal and Torres Strait Islander Hospital Liaison Officers, and clinicians employed at each study site) to inform the development of a '*clinical yarning*' training program to improve communication skills of clinicians. Evaluation of the efficacy of the training involves analysis of data collected at the three study sites over a 12-month period. The study will be rolled-out with an emphasis on 5 different foci (Fig. 1).

Phase 1 - Governance: Project governance comprises a steering committee and two advisory groups. This project is led by an Aboriginal researcher and guided by a steering committee of Indigenous and non-Indigenous researchers with expertise in Indigenous health, pain management, and communication. Two advisory groups will support and monitor the conduct of the study: a patient advisory group (PAG) of representative patients' family members and/or carers, and a clinical advisory group (CAG) of representative clinicians.

Phase 2 - Adapting the Clinical Yarning Framework to Draft the Training Program (Aims 1–2): Semi-structured interviews and focus groups with patients, their family members and/or carers, and clinicians will explore experiences of receiving or providing pain care and communication. The clinical yarning framework [12] will be introduced to patients and discussed with respect to its relevance for patients and in the Queensland context. Clinicians will similarly be invited to identify barriers and enablers to effective communication between patients and health professionals. Information gathered from patients and clinicians will be used to identify communication needs and preferences in the context of pain management services to then be incorporated in a draft of the clinical yarning training program. Patients and their family members will be invited to provide feedback about the draft clinical yarning training program. The training program will utilise methods recommended when training clinicians in patient-centred communication skills including experiential learning, interaction, role play and feedback [13].

Phase 3 - Pre-Training Data Collection (Aims 1–2): Patients, family members and carers will be invited to complete a survey rating their experience of communication during a clinical consultation. The communication survey is an adapted version of the Cultural safety survey by Elvidge (2020) [14]. The Cultural safety survey [14] was developed and validated to measure cultural safety in hospitals from an Aboriginal patient perspective. This survey has 23 questions distributed across five domains (domain 1: communication (positive); domain 2: communication (negative); domain 3: trust; domain 4: environment, and domain 5: support for Aboriginal families and culture); and respondents indicate agreement using a four-point Likert scale with *'always', 'usually', 'sometimes' and 'never'*. In the adapted communication survey to be used in this study, the domains 1, 2, 4 (communication: positive and negative and environment) remained unchanged; in the domain 3 (trust) an extra question was added, and in domain 5 (support for Aboriginal families and culture) four items were removed, details are described in Table 1. A research assistant will be available to assist completion of the survey. Associated survey data will be analysed to describe changes in communication experiences prior to and following a health professional attending clinical yarning training.

Qualitative data will also be collected through video recordings of consultations for the analysis of communication practices and explore differences pre and post a health professional attending clinical yarning training. In contrast to self-reported data about communication experiences, video-recordings provide detailed information about communication behaviours and associated change [15]. Video recordings will only be offered if both the consumer and provider involved in a consultation freely and independently consent. Patients can choose to participate in either or both the survey and video-recording dimensions of the study.

Additionally, data on experiences supporting patients with persistent pain will be collected within the Queensland Health Cultural Capability Network (Cultural Capability Coordinators, facilitators and Aboriginal and Torres Strait Islander Hospital Liaison Officers) to inform the training content.

Phase 4 - Training Program Refinement (Aim 2): Researchers supported by the advisory groups (PAG and CAG) will refine the initial draft of the Queensland clinical yarning training. The draft of the training

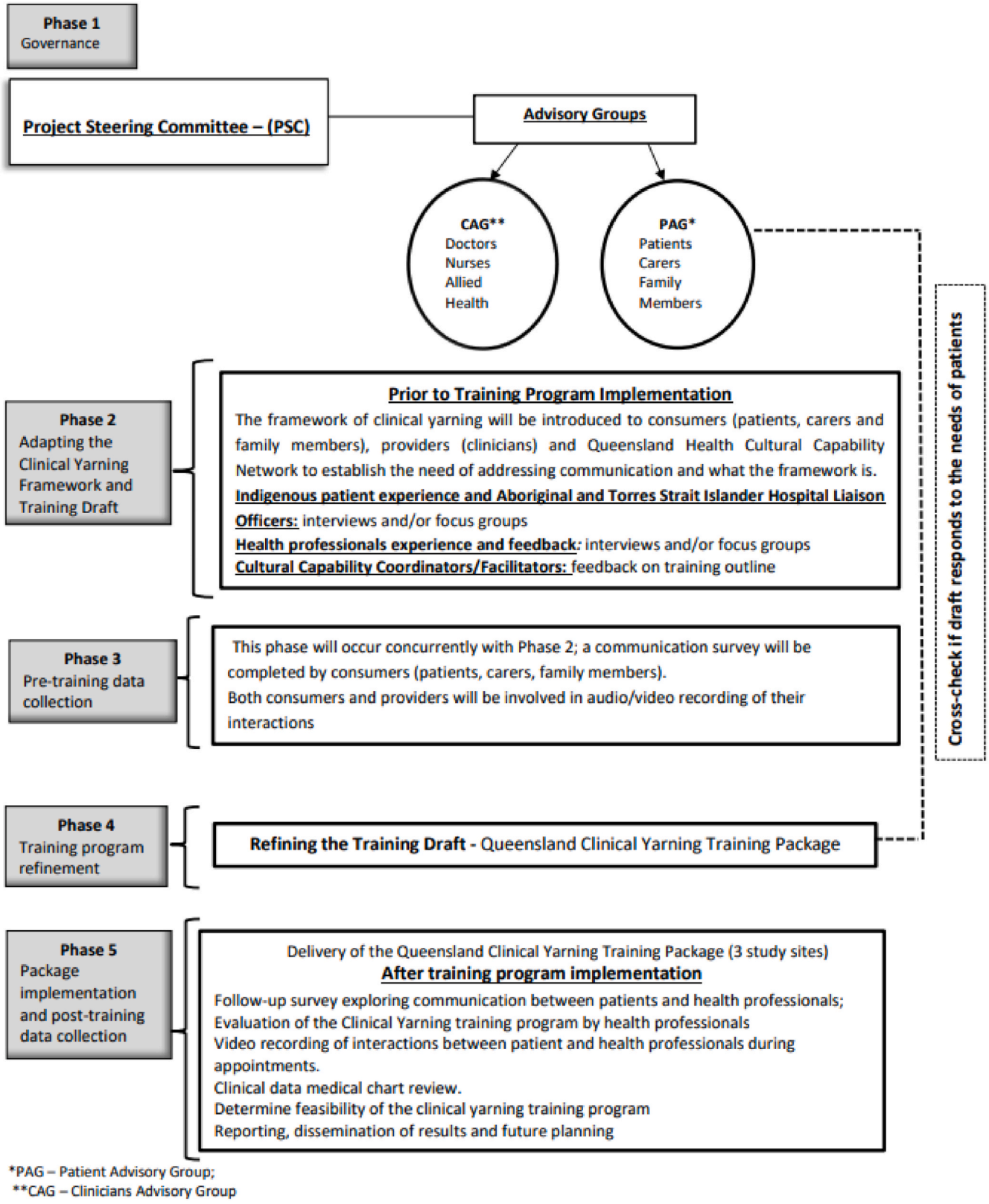

Fig. 1. Development and implementation flowchart of the Qld Clinical Yarning Training Program.

program will be further discussed with the PAG to ensure it responds to patient communication needs and preferences.

Phase 5 - Training and Post-Training Data Collection (Aims 3–4): The research team will deliver the clinical yarning training to clinicians in the three study sites. The training format will involve two components: cultural capability and clinical yarning, and will be delivered in 1 day, 7 h training experience combining education and interactive activities with simulation patients. The training sessions will be recorded and consent will be obtained from each participating clinician. Following the delivery of the training, clinicians will complete an

Table 1
Elvidge et al. (2020) Cultural Safety Survey questions, response options and adapted Communication Survey version for the Clinical Yarning Study.

Domains	Response options	CY adapted version Patients/Family members/Carers	Response options
Domain 1: communication (positive)		Domain 1: communication (positive)	
Q1 During your stay in hospital, how often did the hospital staff listen carefully to you?	Never, sometimes, usually, always	Q1 During this visit to the clinic, how often did your clinician listen carefully to you?	Never, sometimes, usually, always
Q2 Were you able to talk to hospital staff about any health questions or concerns?	Never, sometimes, usually, always	Q2 Were you able to talk to your clinician about any health questions or concerns?	Never, sometimes, usually, always
Q3 How often did hospital staff give you easy to understand information about your condition or concerns?	Never, sometimes, usually, always	Q3 How often did your clinician give you easy to understand information about your condition or concerns?	Never, sometimes, usually, always
Q4 How often did hospital staff seem to know the important information about your medical history?	Never, sometimes, usually, always	Q4 How often did your clinician seem to know the important information about your medical history?	Never, sometimes, usually, always
Q5 How often did hospital staff show respect for what you had to say?	Never, sometimes, usually, always	Q5 How often did your clinician show respect for what you had to say?	Never, sometimes, usually, always
Domain 2: communication (negative)		**Domain 2: communication (negative)**	
Q6 How often did hospital staff interrupt you when you were talking?	Never, sometimes, usually, always	Q6 How often did your clinician interrupt you when you were talking?	Never, sometimes, usually, always
Q7 How often did hospital staff rush or talk too fast with you?	Never, sometimes, usually, always	Q7 How often did your clinician rush or talk too fast with you?	Never, sometimes, usually, always
Q8 How often did hospital staff explain your treatment in a way that was difficult to understand?	Never, sometimes, usually, always	Q8 How often did your clinician explain your treatment in a way that was difficult to understand?	Never, sometimes, usually, always
Q9 How often did hospital staff talk down to you or use a rude tone or manner with you?	Never, sometimes, usually, always	Q9 How often did your clinician talk down to you or use a rude tone or manner with you?	Never, sometimes, usually, always
Domain 3: trust		**Domain 3: trust**	
Q10 How often did hospital staff spend enough time with you?	Never, sometimes, usually, always	Q10 Did your clinician spend enough time with you?	Not at all, somewhat, mostly, definitely
Q11 Do you feel like you can tell hospital staff anything? Even things that you might not tell anyone else?	Never, sometimes, usually, always	Q11 Did you feel like you could tell your clinician anything? Even things that you might not tell anyone else?	Not at all, somewhat, mostly, definitely
Q12 Do you trust the hospital staff with your medical care?	Never, sometimes, usually, always	Q12 Did you feel you could trust your clinician with your medical care?	Not at all, somewhat, mostly, definitely
Q13 Do you feel that the hospital staff will always tell you the truth about your health, even if there is bad news?	Never, sometimes, usually, always	Q13 Did you feel that your clinician would always tell you the truth about your health, even if there is bad news?	Not at all, somewhat, mostly, definitely
Q14 Do you feel that the hospital staff really care about your health?	Never, sometimes, usually, always	Q14 Did you feel that your clinician really cared about your health?	Not at all, somewhat, mostly, definitely
		EXTRA QUESTION ADAPTED FROM COMMUNICATION SURVEY	
		Q15 Did you feel like you were able to get to know your clinician?	Not at all, somewhat, mostly, definitely
Domain 4: environment		**Domain 4: environment**	
Q15 Were the receptionists at this hospital as helpful as you thought they should be?	Never, sometimes, usually, always	Q15 Were the receptionists at the clinic as helpful as you thought they should be?	Not at all, somewhat, mostly, definitely
Q16 How often did the receptionists at this hospital treat you with courtesy and respect?	Never, sometimes, usually, always	Q16 Did the receptionists at the clinic treat you with courtesy and respect?	Not at all, somewhat, mostly, definitely
Q17 How often have you felt uncomfortable in the hospital environment?	Never, sometimes, usually, always	Q17 Did you feel uncomfortable in the clinic?	Not at all, somewhat, mostly, definitely
Domain 5: support for Aboriginal families and culture		**Domain 5: support for Aboriginal families and culture**	
Q18 Do you feel that hospital staff genuinely respect your cultural values and practices?	Never, sometimes, usually, always	Q18 Did you feel that your clinician genuinely respected your cultural values and practices	Not at all, somewhat, mostly, definitely
Q19 How often have you felt unfairly treated at this hospital because of your race or cultural background?	Never, sometimes, usually, always	Q19 Did you feel unfairly treated because of your race or cultural background?	Not at all, somewhat, mostly, definitely
Domain 5: support for Aboriginal families and culture		**Domain 5: support for Aboriginal families and culture**	
Screening questions During your time in this hospital, were you ever asked if you would like to talk to the Aboriginal Hospital Liaison Officer?	Yes, no, not sure, other	Q20 During your visit to the clinic, were you asked if you would like to talk to the Indigenous Hospital Liaison Officer?	Yes, no, not sure, other
Would you like to have been able to talk to the Aboriginal	Yes, no, not sure, other	Q21 Would you like to have been able to talk to the Indigenous Hospital Liaison Officer?	Yes, no, not sure, other

(*continued on next page*)

Table 1 (*continued*)

Domains	Response options	CY adapted version Patients/Family members/Carers	Response options
Domain 1: communication (positive)		Domain 1: communication (positive)	
Hospital Liaison Officer?			
Q20 During your time in this hospital, how often have you been able to talk to the Aboriginal Hospital Liaison Officer?	Never, sometimes, usually, always	NOT APPLICABLE FOR THIS STUDY	–
Q21 After talking to the Aboriginal Hospital Liaison Officer do you feel more comfortable or at ease about your concerns?	Never, sometimes, usually, always	NOT APPLICABLE FOR THIS STUDY	–
Q22 How often did your family visit you in hospital?	Never, sometimes, usually, always	NOT APPLICABLE FOR THIS STUDY	–
Q23 Did your family feel comfortable visiting you in hospital?	Never, sometimes, usually, always	NOT APPLICABLE FOR THIS STUDY	–

evaluation form rating the importance of communication, their knowledge, ability and confidence to communicate with Aboriginal Torres Strait Islander patients (Fig. 2). This evaluation will be a post plus retrospective pre-training method of measuring change, that is, clinicians will indicate their ratings before training for the four items (importance, knowledge, ability and confidence) at the time after training. Patients will complete the same communication survey and video recorded data will be collected as in Phase 3.

Phase 6 – Project Conclusion and Dissemination of Study Results (Aim 4): Results and key learnings arising from the study will be reported and disseminated via publications in peer reviewed journals and presentations at conferences. The research team will undertake consultation, engagement and planning with identified and interested stakeholders and partners to explore the potential for transference of the lessons learned to other areas of the public hospital and health service sector (e.g. accident and emergency, maternity, mental health, etc).

2.1. Data collection

2.1.1. Participants

There are four groups of participants for the study: Aboriginal and Torres Strait Islander patients; family members and/or carers for the patients; clinicians (pain specialist and registrars, nurses, physiotherapists, psychologists, occupational therapists). Cultural Capability Coordinators (responsible for the development and implementation of cultural capability training within the Queensland Health Department) and facilitators and Aboriginal and Torres Strait Hospital Liaison Officers part of the Queensland Health Cultural Capability Network. The Aboriginal and Torres Strait Hospital Liaison Officers are employed in public hospitals where the pain clinics operate and their role is to provide support to patients and their families.

Patients and Family and/or Carers will be invited to participate in the study: as members of the Patient Advisory Group (Phase 1); in an interview and/or as a focus group participant providing feedback about and supporting refinement of the clinical yarning training program (Phases 2 and 4); and/or providing feedback about their experience of communication in the context of a clinical consultation pre and/or post clinical yarning training of their health professional (Phases 3 and 5); and/or providing feedback about their experience of communication in the context of supporting a patient to attend a clinical consultation pre and/or post clinical yarning training of the associated health professional (Phases 3 and 5).

Clinicians will be invited to participate: as members of the Clinician Advisory Group (CAG; Phase 1); in an interview and/or as a focus group participant providing feedback about and supporting refinement of the clinical yarning training program (Phases 2 and 4); and/or providing feedback about their experience of communication in the context of a clinical consultation with an Aboriginal and Torres Strait Islander patient pre and/or post their attending clinical yarning training (Phases 3 and 5); and in the recordings and evaluation of the training sessions.

4. Cultural Capability Coordinators and facilitators and Aboriginal and Torres Strait Islander Hospital Liaison Officers will be invited to participate: Cultural Capability Coordinators and Facilitators will be

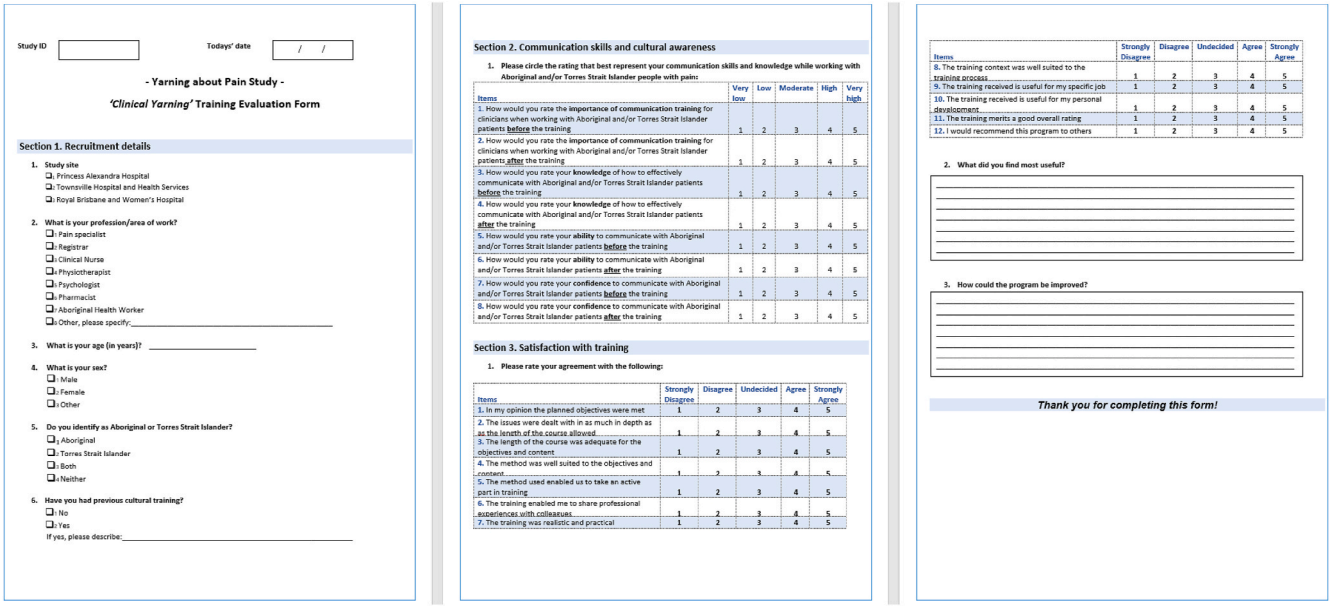

Fig. 2. Training evaluation form for clinicians.

invited to provide feedback on the training outline about the adequacy and fit for purpose of the training. Aboriginal and Torres Strait Islander Hospital Liaison Officers will be invited to share their experiences of communication issues while supporting patients.

2.2. Materials and procedures

Individual in-depth interviews and focus groups sessions will occur at each site. Feedback collected via focus group sessions and in-depth interviews serve to inform and refine the clinical yarning training program. We will collect data from each of the three sites through:

1) In-depth interviews and focus groups pre training. Focus groups will have a sample size of 5–10 participants in each group. In-depth interviews will be conducted until saturation is reached [16].
2) Communication surveys. These surveys will be completed after a patient had a consultation or after family members or carers accompanied a patient in a consultation. An estimate provided by the pain clinics demonstrated that in 2018, a total of N = 195 patients were seen across the three clinics. Pragmatically, based on time and resources it is expected to recruit a sample of 25–50 patients per site. It is estimated an attrition rate of 20%.
3) Video recordings of clinical consultations pre and post training. A purposive sampling [17] will be used to gather rich data related to the phenomenon of interest, that is, pre and post training patient-clinician communication interactions during consultations.
4) Review of medical charts when participant recruitment is completed. A standard review form will include: patient demographics (age, sex, residence location, employment), recruitment place, referral details (date referral letter, received by the service), diagnosis, reason pain began, how long pain has been present, pain measure, pain interference, depression, anxiety and stress scale (DASS), confidence rating, feelings and thoughts, comorbidities, services and medications use.
5) Feedback on the training outline by the Queensland Health Cultural Capability Coordinators and facilitators.
6) A custom-designed training evaluation form and recording of the clinical yarning training sessions. It is expected that the training will involve at least 60% of the all clinicians listed as staff at the time of the training across the three study sites (estimated N = 55).

The final Clinical Yarning training program will be delivered across the three sites in a staggered approach, commencing at site 1, followed by site 2 (3 months after site 1), and concluding at site 3 (3 months after site 2).

2.3. Data analysis

Descriptive statistics will be used to summarize patients and clinicians demographic characteristics, appointments type (e.g. pain specialist, psychology, physiotherapy, psychiatrist), appointment outcome (cancelled, confirmed, fail to attend, re-scheduled), referral source. The results will be expressed in form of frequencies and percentages for each categorical variables and mean, standard deviation (SD) and 95% confidence interval. The difference of the mean scores for the patients' communication surveys (pre-post training) will be analysed using one sample *t*-test, as the data collected is not expected to match pre and post-training measures for each patient. Alternatively, if the data is not normally distributed, non-parametric test, Wilcoxon rank-sum test will be used. Statistical significance will be set at alpha = 0.05. Comparison between the means of the three services will use analysis of variance (ANOVA) or Kruskal-Wallis test if not normally distributed.

The evaluation of the training program will be focused on the feasibility (recruitment rates, reasons for non-participation and attrition); acceptability and satisfaction and results will be presented as frequencies and percentages for each categorical variables and mean, standard deviation (SD) and 95% confidence interval. The difference of the pre-training and post-training mean scores for importance, knowledge, ability and confidence will be analysed using parametric or non-parametric tests as appropriate (paired *t*-test or Wilcoxon signed-rank test). Statistical significance will be set at alpha = 0.05).

Qualitative data from the focus groups and interviews will be audio recorded. The recordings will be transcribed and reviewed several times by the researchers. The data will be examined to identify barriers and enablers to communication needs and training preferences. Inductive thematic analysis [18] will be undertaken to identify emerging themes. Video recordings will be analysed using conversation analysis [19].

The feedback provided by Cultural Capability Coordinators and Facilitators on the training outline, will be summarized and discussed by the training development team to incorporate in the final version of the training.

3. Discussion

This project was first conceived in January 2018 when members of the project team sought input from researchers as to potential and perceived barriers to Aboriginal and Torres Strait Islander patients accessing persistent pain services. Suboptimal communication was identified as a significant barrier to Aboriginal and Torres Strait Islander patients accessing quality, culturally appropriate and sensitive health care and confirmed by the findings of other studies [20–22]. Communication issues can impact the provision of quality sensitive health services across any service and at any level of care provision, including (but not limited to) the management of persistent pain. Potential solutions to effective communication between Aboriginal and Torres Strait Islander patients and clinicians, should include appropriate cultural training, avoidance of medical jargon and accommodate patients' psychosocial and logistical needs [22–24].

This proposal offers an innovative way to addresses communication between clinicians and Indigenous patients, combining a patient-centred framework embedded with cultural sensitive elements and contemporary biomedical knowledge [12].

In terms of practical or operational issues in performing this study, the research team will need to consider that the recruitment of patients may be affected by the nature of consultations in the persistent pain clinic (longer intervals between consultations) and the event of COVID-19.

4. Conclusion

We anticipate that this research will be a first-step for the study of clinical communication in this context as it is for intervention about communication. It is hypothesized that the patient-centred intervention will have immediate benefits for patients, improving patient experience of care. This research will focus on an area of unmet need in addressing persistent pain.

Ethics approval and consent to participate

Ethical approval for the study has been obtained from the Townsville Hospital and Health Service Human Research Ethics Committee (reference number HREC/QTHS/63949) and QIMR Berghofer Queensland Medical Research Institute Human Research Ethics Committee (reference number P3552). Site specific approvals have been obtained for the Princess Alexandra Hospital, Royal Brisbane and Women's Hospital and Townsville Hospital and Health Service. Informed consent will be sought from all participants in the study.

Funding

This study was funded by Brisbane Diamantina Health Partners (BDHP) – Medical Research Future Fund (MRFF): Rapid Applied

Research Translation (RART) Grant Opportunity. The funding body had no input in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

Declaration of competing interest

The authors have no competing interests to declare.

Acknowledgements

The research team would like to thank the patients, clinicians and the Indigenous Liaison Hospital Officers from the three study sites who were essential for the conduct of this study.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.puhip.2021.100221.

References

[1] Australian Institute of Health and Welfare, Chronic Pain in Australia. Cat No. PHE 267, AIHW, Canberra, 2020.
[2] L. Arthur, P. Rolan, A systematic review of western medicine's understanding of pain experience, expression, assessment, and management for Australian Aboriginal and Torres Strait Islander Peoples, Pain Rep 4 (6) (2019) e764.
[3] I.B. Lin, S. Bunzli, D.B. Mak, et al., Unmet needs of aboriginal Australians with musculoskeletal pain: a mixed-method systematic review, Arthritis Care Res. 70 (9) (2018) 1335–1347.
[4] Painaustralia, The National Strategic Action Plan for Pain Management, Canberra: funded by the Australian governement department of health, Available from, https://www.painaustralia.org.au/static/uploads/files/the-national-strategic-action-plan-for-pain-management-the-national-strategic-actio-wfvityyhasfb.pdf, 2021.
[5] J. Strong, M. Nielsen, M. Williams, J. Huggins, R. Sussex, Quiet about pain: experiences of Aboriginal people in two rural communities, Aust. J. Rural Health 23 (3) (2015) 181–184.
[6] Queensland Health, The Health of Queenslanders 2018, Report of the Chief Health Officer Queensland, Brisbane, 2018.
[7] C. Holland, A Ten-Year Review: the Closing the Gap Strategy and Recommendations for Reset, Close the Gap Campaign Steering Committee, Canberra, 2018.
[8] C. Fenwick, J. Stevens, Post operative pain experiences of central Australian aboriginal women. What do we understand? Aust. J. Rural Health 12 (1) (2004) 22–27.
[9] P. McGrath, 'The biggest worry.': research findings on pain management for Aboriginal peoples in Northern Territory, Australia, Rural Rem. Health 6 (3) (2006) 549.
[10] Poche Indigenous Health Network, Best evidence summary for pain management. http://pochehealth.edu.au/2015/05/26/best-evidence-summary-for-pain-management/, 2015. (Accessed 2 February 2019).
[11] M. Bryant, R. Ray, in: What are the Barriers to Referral to a Pain Management Clinic for First Nations People?, James Cook University unpublished work, 2019.
[12] I. Lin, C. Green, D. Bessarab, 'Yarn with me': applying clinical yarning to improve clinician-patient communication in Aboriginal health care, Aust. J. Prim. Health 22 (5) (2016) 377–382.
[13] M. Berkhof, H.J. van Rijssen, A.J. Schellart, J.R. Anema, A.J. van der Beek, Effective training strategies for teaching communication skills to physicians: an overview of systematic reviews, Patient Educ. Counsel. 84 (2) (2011) 152–162.
[14] E. Elvidge, Y. Paradies, R. Aldrich, C. Holder, Cultural safety in hospitals: validating an empirical measurement tool to capture the Aboriginal patient experience, Aust. Health Rev. 44 (2) (2020) 205–211.
[15] A. Peräkylä, Reliability and validity in research based on transcripts, in: D. Silverman (Ed.), Qualitative Research: Theory, Method and Practice, Sage Publications, 1997.
[16] D.M. Turner-Bowker, R.E. Lamoureux, J. Stokes, et al., Informing a priori sample size estimation in qualitative concept elicitation interview studies for clinical outcome assessment instrument development, Value Health 21 (7) (2018) 839–842.
[17] L.A. Palinkas, S.M. Horwitz, C.A. Green, J.P. Wisdom, N. Duan, K. Hoagwood, Purposeful sampling for qualitative data collection and analysis in mixed method implementation research, Adm Policy Ment Health 42 (5) (2015) 533–544.
[18] M. Maguire, B. Delahunt, Doing thematic anlysis: a practical, step-by-step guide for learning and teaching scholars, AISHE 9 (3) (2017) 3351–3354.
[19] P. Drew, J. Chatwin, S. Collins, Conversation analysis: a method for research into interactions between patients and health-care professionals, Health Expect. 4 (1) (2001) 58–70.
[20] A. Durey, S.C. Thompson, M. Wood, Time to bring down the twin towers in poor Aboriginal hospital care: addressing institutional racism and misunderstandings in communication, Intern. Med. J. 42 (1) (2012) 17–22.
[21] P. Lakhan, D. Askew, M.F. Harris, C. Kirk, N. Hayman, Understanding health talk in an urban Aboriginal and Torres Strait Islander primary healthcare service: a cross-sectional study, Aust. J. Prim. Health 23 (4) (2017) 335–341.
[22] J. Stanford, K. Charlton, A.T. McMahon, S. Winch, Better cardiac care: health professional's perspectives of the barriers and enablers of health communication and education with patients of Aboriginal and Torres Strait Islander descent, BMC Health Serv. Res. 19 (1) (2019) 106.
[23] S. Shahid, A. Durey, D. Bessarab, S.M. Aoun, S.C. Thompson, Identifying barriers and improving communication between cancer service providers and Aboriginal patients and their families: the perspective of service providers, BMC Health Serv. Res. 13 (2013) 460.
[24] C. Wotherspoon, C.M. Williams, Exploring the experiences of Aboriginal and Torres Strait Islander patients admitted to a metropolitan health service, Aust. Health Rev. 43 (2) (2018) 217–223.